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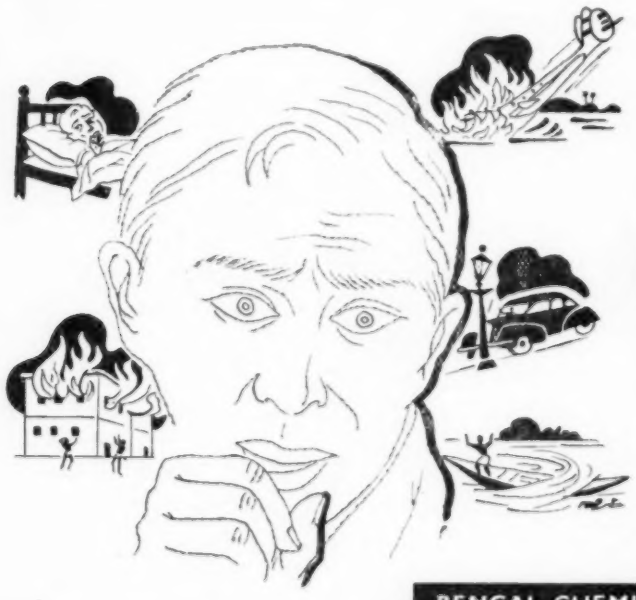

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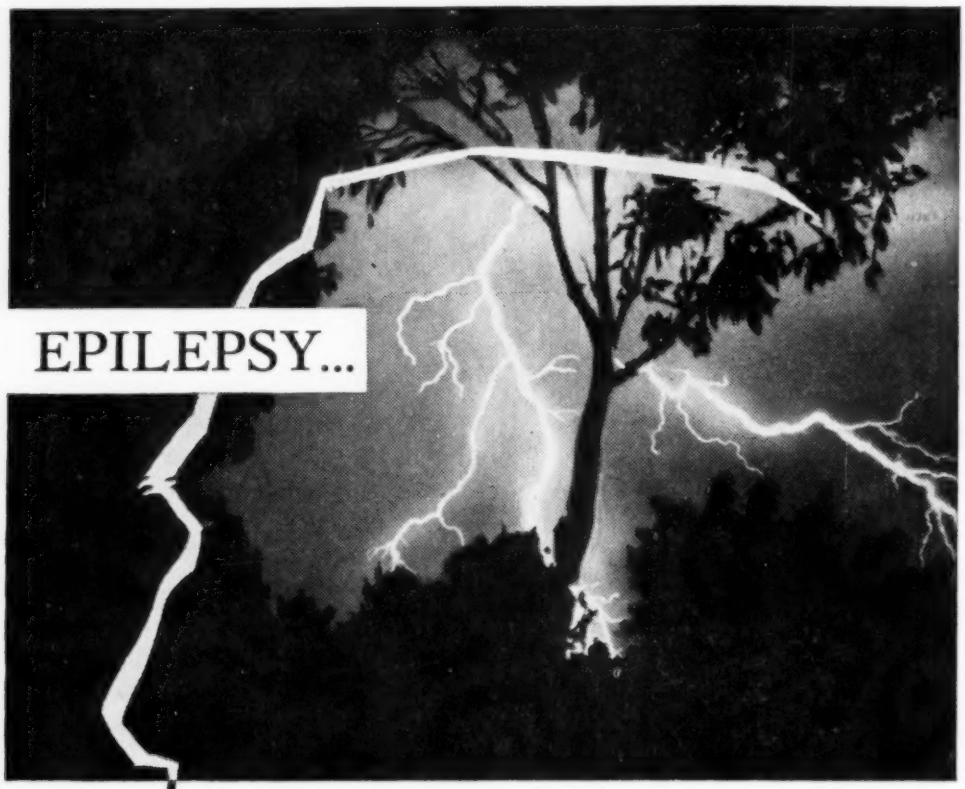

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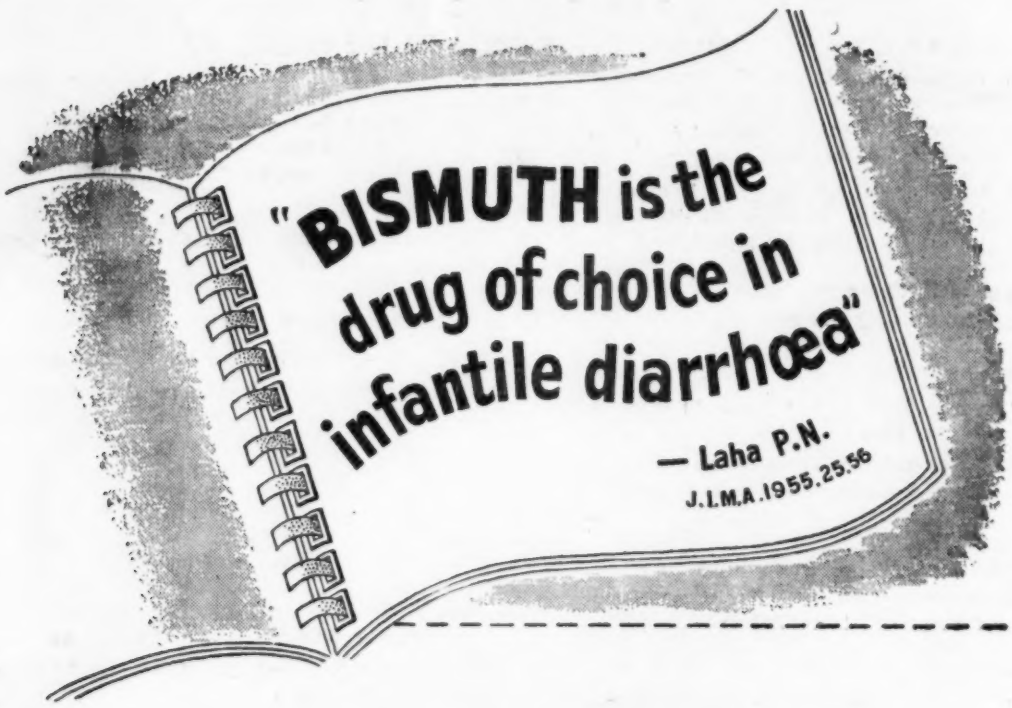

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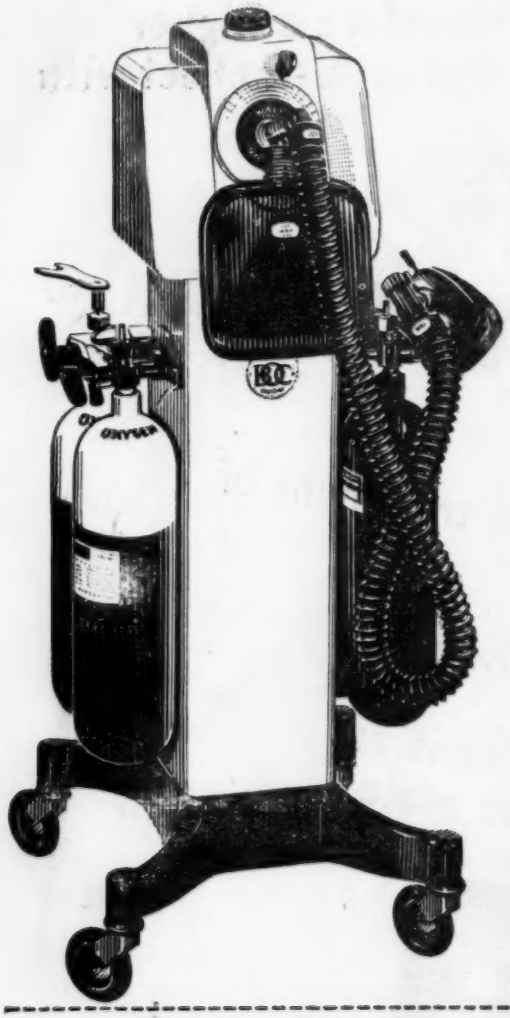

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AIX 95

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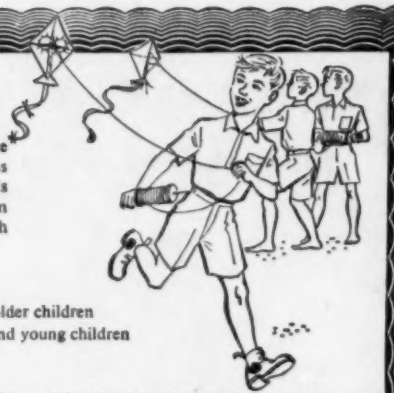

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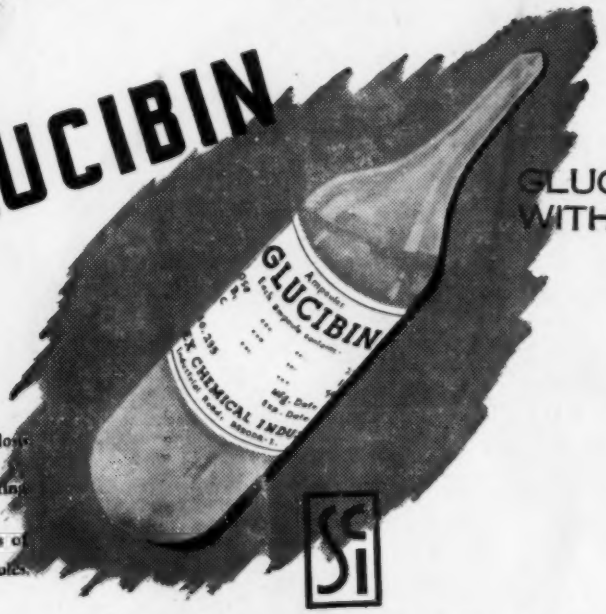

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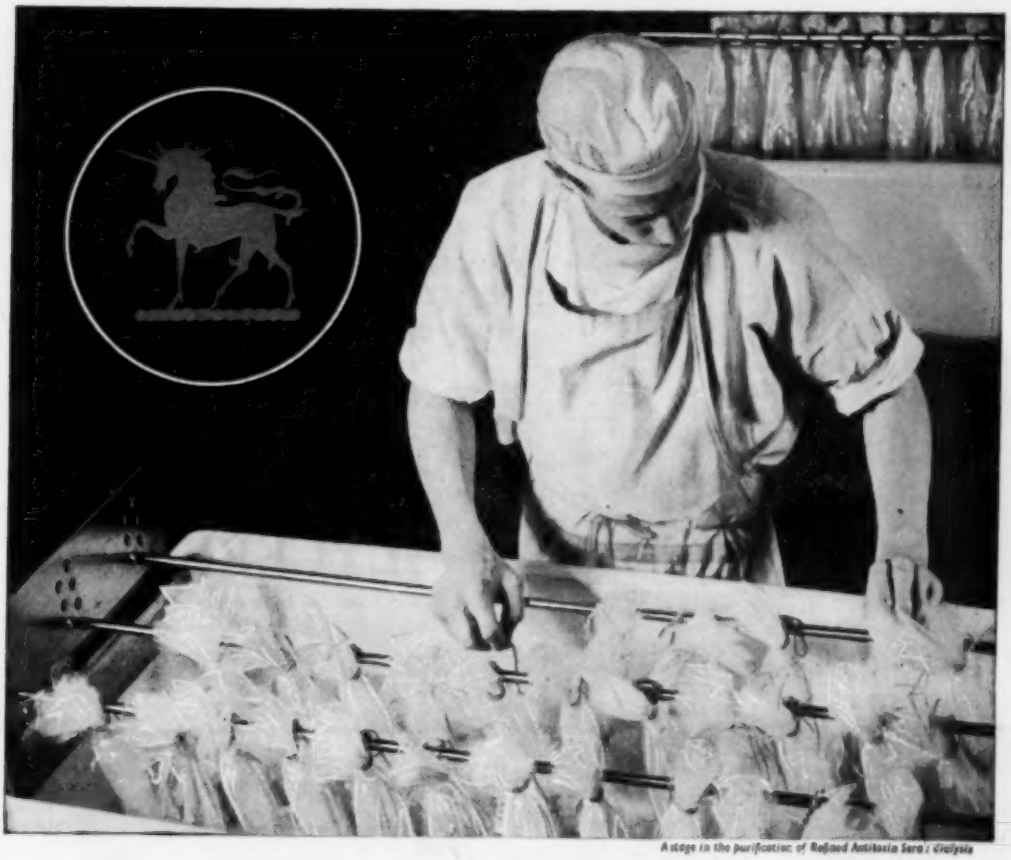

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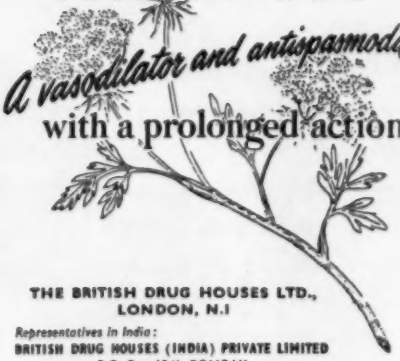

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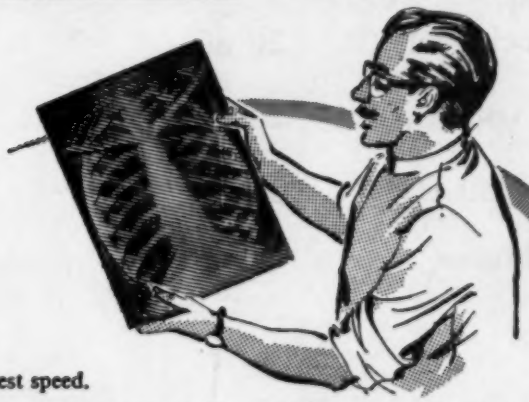

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ORIGINAL ARTICLES

MOVING FIELD THERAPY OF GYNAECOLOGICAL TUMOURS IN THE PELVIS†

H.-J. MAURER, M.D.

Radiological Institute of the University Hospital for Gynaecology and Obstetrics, Erlangen.

The irradiation of the parametria and the efferent lymph vessels (Fig. 1) is considerably difficult rather at the secondary treatment of remissions than at the primary one. For this reason the inclusion of the moving field therapy into the plan of treatment was intensified since technical difficulties had hampered for four decades the appliance of this method first reported in 1913.

Experimenting with models¶ first the question was tested whether moving field therapy could gain real advantages over the known standing field therapy, and then the question concerning the most appropriate kind of moving field therapy. Primarily reported by Siegert and Müller (1954) and later modified by Tischer and Zängl (1954), as well as Dibbelt (1954) controlling the method of irradiating the parametria with the apparatus for *convergent beam therapy* we found that at this motion the distribution of doses did not show the expected favourable conditions: besides the steep peak of doses, there were 'valleys' too, making impossible a homogeneous irradiation of the tumour.

Thus the plain eccentric pendulum therapy (Nielsen, 1948; Wachsmann and Keller, 1952) represents a distinct improvement: the tumour is daily homogeneously irradiated, the adjustment is essentially more easy and exact than that of the multifield therapy with the apparatus for convergent beam therapy, no crossings of the beam occur. But there is still a high strain of skin, bladder and femoral neck. For this reason,

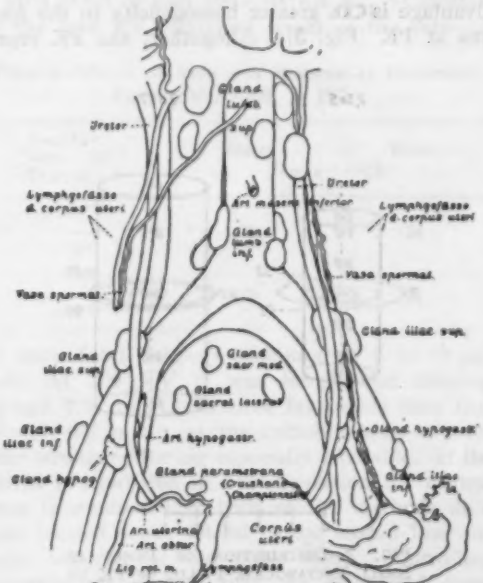

FIG. 1—SCHEME OF THE AREA OF LYMPH-EFFLUX OF THE UTERUS (STOECKEL, LEHRBUCH D. GYN & GEB.)

† A summary reported at the Scientific Meeting of the Rhein.-est'äl, Röntgen-Gesellschaft, Düsseldorff, 1955.

¶ The model of the pelvis consists of 100 parts of paraffin and 20 parts of magnesium oxide surrounding a recently dissected pelvis with femoral stumps.

Thomas *et al* (1953), and Rosmann (1954) lowered the strain of the femoral neck by means of lead shielding but increased those of the skin, bladder and rectum. Thus the tolerance limits were partly exceeded especially at bilateral irradiation. This has been renounced by others since the radiogenic fracture of the femoral neck is observed in only about 2 per cent of all cases. The measurements comparing simple pendulum motion (that is, motion of the bulb with definite angle in one plane) with *"Pendel-Konvergenz"* (*PK*)—(a combination of pendulum and convergent beam therapy) showed that moving the bulb in two planes—contrary to the opinion of Kohler—means further improvement in the pattern of doses while decreasing the strain of skin, bladder and rectum (Fig. 2). Moreover, the decrease of doses towards sound tissue is much more steep than at the simple pendulum motion. This is especially advantageous if irradiation according to the Göttingen method is not possible because of vaginal stenosis: using PK with a small field (2·5 × 5 cm.) it is possible to irradiate 'puncture-like' (Fig. 2). Still another point which, it is guessed, has not the significance attributed to claims for applying PK: the dose per ml. of irradiated tissue is smaller than at plain pendulum motion and so the tissue is saved in spite of a greater volume-dose. Another advantage is the greater homogeneity in the focal area at PK (Fig. 3). Altogether, the PK repre-

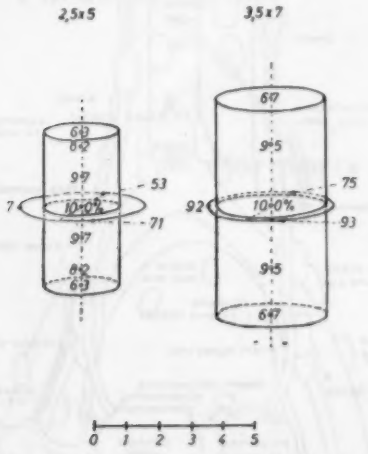

FIG. 2—DISTRIBUTION OF DOSES AT SMALL RECTANGULAR FIELDS OF PK IN THE AREAS OF THE FOCAL FIELD.

sents for a normal quality of rays the optimal method of irradiating the parametria.

Wachsmann and Keller (*loc. cit.*) suggested to accomplish a pendulum motion on two or more

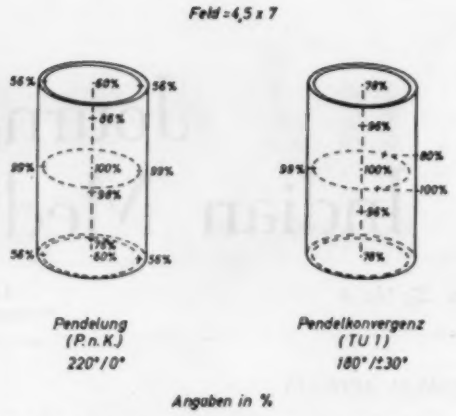

FIG. 3—DISTRIBUTION OF DOSES IN THE FOCAL FIELD AT PLAIN PENDULUM MOTION AND PK.

girdle-like fields instead of plain pendulum motion. This would correspond with a non-automatic PK. The adjustment of fields invading in different angles is very difficult and—since the patients scarcely can be bedded in the same position—there may result crossings or no irradiated spaces in the area.

However, the success does not depend only on a sufficient high irradiation of the parametric tissue but is also influenced essentially by irradiating the efferent lymph vessels; Kottmeier quoted by Wachsmann (1954) found metastases in the iliac and para-aortic lymph nodules without evidence at clinical examination—and this at a high percentage already of stage 1. Here it is interesting that Kottmeier (*loc. cit.*) and others proved that this percentage was significantly lower at appropriate pre-irradiation; that means also metastases in lymph nodules can be treated successfully by ray-therapy.

Kottmeier (*loc. cit.*) and later on Wachsmann (1954) suggested to undertake pendulum motion with long fields (as long as 25 cm.) in order to seize the said lymph vessels and nodules. Regarding the topographic conditions this would mean transferring the field into two planes: the first sited medial and the second ventral. Thereby the maximum of dose automatically comes into the area of the shortest length of irradiated tissue, that is under the skin. Farther the homogeneity of fields this long is poor, for the decrease of doses is very steep in the direction of the length of the field. Furthermore, the centre of the pendulum must be set more cranial, or the field would surpass the pelvis. Herewith also the maximum is set more cranial and so the parametria move into an area of the focal field in which the dose is rela-

tively small. These considerations backed by experimental measurements made us try to irradiate the iliac and para-aortic lymph nodules by means of a second field. While the parametric field remains unchanged, the cranial field is set towards medial and the centre of motion towards dorsal. The site of both fields can be seen in Fig. 4 ; the maximum is marked by a dotted line.

FIG. 4—SITE OF THE TWO FIELDS AT PK—IRRADIATION OF THE PARAMETRIA AND THE PARA-AORTIC LYMPH NODULES. THE COURSE OF THE 100 PER CENT ISODOSE IS MARKED.

Crossings in the depth cause the desired balance of doses so that no "valley" arises in between both fields. Compared with one long field two fields make it possible to choose the apt dose for each field.

TABLE 1—STRAIN OF BLADDER, SKIN A.S.O. AT PLAIN PENDULUM MOTION COMPARED WITH PK. ( ) : LEAD SHIELDING OF THE FEMORAL NECK

	Feld-grosse	Pendel- / Transl.	Haut r	Blase n. Rectum r	Huftgel.-Pfanne r	Schenkel-Hals r
Pendelg. n. Kohler	4×6	220° / θ	3000	1250-2500	4500	3000
Pendel-Konvergenz	3·5×7	180° / ±30°	1700	1250		
	4·5×7	180° / ±30°	2360	1390	(3100)	(1650)

TABLE 2—RELATIVE INNER DOSE, STRAIN OF SKIN AND BLADDER AT PK AND PENDULUM MOTION. ( ) : LEAD SHIELDING

	Feld-Grösse	Pendel- / Transl- W	rel TD %	Haut (D_{max} = 100%)	Blase (D_{max} = 100%)
Pendelgerät nach Kohler	4×6	220° / θ	166	60 (70)	38 (45)
Pendel-Konvergenz	3·5×7	180° / ±30°	275	37 (43)	25 (28)
	4·5×7		213	47 (51)	28 (31)

For completeness, the data of irradiation are given. At the plain eccentric pendulum motion a pendulum is used at an angle of 220 degrees also at bilateral irradiation. Combining pendulum and convergent beam therapy this angle could be diminished to 180 degrees. This proved to be favourable regarding the strain on bladder and rectum at bilateral irradiation ; the angle of translation is ± 30 degrees (Fig. 3). The conditions as to the length of the transirradiated tissue may be influenced favourably by swaddling the abdomen especially of corpulent patients ; that means the length of the cranial and caudal transirradiated tissue is nearly equal. The femoral neck is shielded by a sheet of lead 100 × 100 × 3 mm. Calculating the dose the additional strain of the skin—at

TABLE 3—STRAIN OF SKIN AND BLADDER AT DIFFERENT PENDULUM ANGLES AT PK.

Pendel- / Transl- W	Blase D_{max} = 100%	Haut
210° / ±30°	38	34
180° / ±30°	25	37

the same focal dose—is computed at 5 to 10 per cent. At 200 KV it was found that filtering through 0·5 mm. Cu is more favourable than that through 0·2 mm. ; as the radiobiological aspects make stronger filtering especially advisable. If the patient is irradiated in dorsal position the central beam is conducted at both of the methods at a point located 4 cm. lateral to the medial line and 2 cm. superior of the pubic bone. Controlling measurements showed that the calculated doses varied only a little with the measured ones. Particularly it appeared that the position is not altered during irradiation (18, partly 27 minutes) while patients irradiated in the side position showed distinct deviations ; moreover, the reproduction of the dorsal position is much more easy. Nielsen

and Jorgsholm (1954) stated that an exact adjustment at complicated methods of moving field therapy is easier than at uncomplicated ones.

In conclusion, reference may be made to pendulum therapy with some MeV (15 MeV, Betratron, Siemens-Reiniger). Contrary to the results of Schinz and Wiederöe (1954) with 32·5 MeV x-rays. Maurer and Reuss (1954) succeeded in demonstrating that the pendulum therapy with 15 MeV x-rays has the most favourable distribution of doses in the pelvis (Fig. 5). Using appropriate compensating filters the isodoses can be adapted to the actual needs whereby an extensive individualisation of irradiating is made possible. However, the additional irradiation of the said iliac and para-aortic lymph nodules is to be done by means of a second field aptly moved. At this quality of rays (15 MeV) the conditions of absorption are equal in the different irradiated tissues, especially in bone ; that means the absorption corresponds with that of all other tissues.

proved that these disadvantages do not appear at pendulum therapy with 15 MeV x-rays. In consequence of the favourable conditions of absorption in different tissues we take this method to be the really best one irradiating gynaecological tumours in the pelvis.

The technical data, especially of the irradiation of the iliac and para-aortic lymph nodules are discussed.

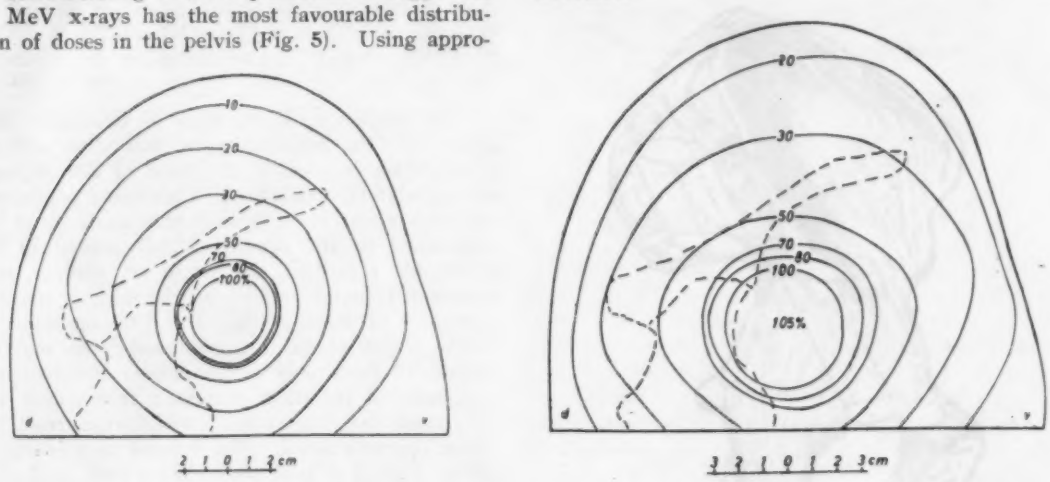

FIG. 5—COURSE OF ISODOSES IN THE PELVIS AT IRRADIATION WITH 15 MEV-X-RAYS (BETRATON, SIEMENS-REINIGER)
(A) 4×10 cm.....field. (B) 6×10 cm.....field.

SUMMARY

Measurements on models and patients showed that irradiating the parametria by means of PK represents the optimal method in the sphere of the usual qualities of rays.

The conditions of doses in the pelvis and the skin are essentially more unfavourable at the plain eccentric pendulum motion ; at lead shielding of the femoral neck they surpass—contrary to PK—partly the limits of tolerance.

While experiments of Schinz and Wiederöe (*loc. cit.*) showed the pendulum motion with 31 MeV x-rays to be unfavourable, our measurements

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LIVER CHANGES IN CHRONIC INTESTINAL AMOEBIASIS†

R. M. KASLIWAL, M.D., M.R.C.P., D.T.M. & H.,
Professor and Head of the Department of Medicine,
AND
M. L. BHATIA, B.SC., M.B.B.S.,
Formerly Registrar, Department of Medicine, Sawai Man Singh Medical College and Hospital, Jaipur.

Rogers (1907) described the clinical picture of amoebic hepatitis, and since then it has been universally accepted that hepatic amoebiasis exists in two forms, amoebic hepatitis and amoebic liver abscess. This concept has been challenged by the work of Loeber and D'Antoni (1947) who while studying amoebiasis in children in New Orleans reported finding liver enlargement and tenderness without any signs of body reaction like fever, leucocytosis etc. and frequent association with colonic amoebiasis. Similar observations have been made by Sodeman (1950) and Kasliwal (1954) in adult patients of chronic amoebiasis.

Nelson *et al* (1955) recently reported the histological features of liver tissue obtained at biopsy in typical cases of amoebic hepatitis with constitutional signs and impaired liver function tests. The clinical features of hepatic enlargement in association with chronic amoebiasis without any fever, leucocytosis, or radiological evidence of diaphragmatic involvement due to liver disease have been studied by Loeber and D'Antoni (*loc. cit.*) and Sodeman (*loc. cit.*). Histopathological changes in the liver in patients dying of amoebic dysentery have, however, been studied. Thus Bartlett (1916-17), while investigating dysentery epidemics in European troops in 1915, conducted necropsies in 30 cases. Seventeen of these were of amoebic aetiology. In an autopsy study by Bartlett (1916-17) in 17 amoebic patients, the liver showed necrosis and portal infiltration in two, degeneration and portal infiltration in four, degenerative changes like cloudy swelling and mild fatty infiltration in 9, atrophy in one and a normal liver in one case. Palmer (1938) reported autopsy findings of 19 cases whose bowels showed active amoebic lesions. Microscopically, there was mainly an increase in portal connective tissue. In nine livers there was definite periportal fibrosis, sometimes diffuse and sometimes patchy. These pathologic changes were interpreted as areas of invasion, with lodgement of amoebae laden emboli which might later on develop into abscess. Palmer's final conclusions were that "there is a definite hepatitis associated with active amoebic lesions of the colon and this is indicated by the generalised increase of portal connective tissue, by lymphocytic and mononuclear infiltration and by constant degenerative changes like cloudy swelling, fatty infiltration, haemosiderosis and hepatic cell lysis".

In 1954 we started doing needle biopsy of the liver in our patients with intestinal amoebiasis having stools repeatedly positive for *E. histolytica*, to find out the histological picture of enlarged livers found in association with chronic amoebiasis. The patients were carefully examined for evidence of any associated infection like malaria, etc., which might affect the liver. Thirty cases with only amoebic pathology were selected for the liver biopsy. The Vim-Silverman needle was used throughout. The liver tissue was fixed in an alcohol-ether mixture, and examined after staining with haematoxylin and eosin. The histological findings in these cases were as follows:

The normal architectural pattern of the liver lobule was generally maintained, although in 24 (80 per cent) cases, the hepatic cell plates were disorganised (Fig. 1, *vide* Plate). All cases with the exception of four showed some degree of diffuse parenchymal damage (86·66 per cent). This consisted of obscured cellular outlines, rarefaction or fragmentation of the cytoplasmic contents, eosinophilic smudging, variation of the nuclear size in the same zone of the hepatic lobule, and pyknosis or ballooning of the nuclei. Some patches of cells were anuclear. In addition, areas of focal necrosis provided another frequent change, being present in 21 (70 per cent) cases (Fig. 2, *vide* Plate). This consisted of dissolution of a patch of parenchymal cells which were overrun by a motley of infiltrating cells including polymorphs, mononuclear cells and histiocytes. These foci had no specific distribution in the lobule and varied in severity from case to case. Sometimes only a single such small area was encountered in the entire biopsy; in others, several such wide patches were seen. The trophozoites of the endamoeba described by some workers in experimental amoebiasis were looked for and could not be identified with certainty.

Reticuloendotheliosis was the commonest change encountered, being present in 28 (93·33 per cent) cases (Fig. 3, *vide* Plate). This also varied in severity. The milder change consisted of simply a swelling of the endothelial cells lining the sinusoids, which bulged into the lumina. In severe

† This study was conducted in the Department of Medicine, Sawai Man Singh Medical College and Hospital, Jaipur as a part of the Enquiry sponsored by the Indian Council of Medical Research.

cases, the cells had undergone active proliferation and clumps of almost 5-20 cells with hyperchromatic nuclei distended the sinusoids. Only infrequently did these cells contain a light brown pigment.

Portal infiltration was seen in 12 (40 per cent) cases. The infiltrating cells were chiefly mononuclear although a few polymorphs were also included. This change, however, was never very severe.

Fibrosis, portal or intralobular, was conspicuous by its absence in all cases but one (3·33 per cent). In this case the fibrosis was limited to the portal area which was considerably enlarged and included 2-3 proliferating biliary ductules. The fibrosis did not extend into the lobule and the normal lobular relationships were still maintained.

Regeneration of the liver cells was a variable feature seen only to a slight degree in some livers. Central veins were invariably normal. No thrombosis was seen in any of the vessels. Only 2 (6·66 per cent) specimens showed an insignificant amount of fatty change, limited to a small group of cells.

Discussion

The above findings indicate that definite histopathological changes occur in the liver in cases of chronic intestinal amoebiasis. These changes are suggestive of a subacute hepatic process, and represent the earliest stage of liver involvement in the disease. This stage could be called the pre-hepatitis stage. Such liver involvement may or may not develop into acute amoebic hepatitis or amoebic liver abscess. When the infection with *E. histolytica* is heavy and/or there is pre-existent liver damage due to malnutrition or one or several of the many factors causing liver damage specially, this stage may proceed on to further necrosis of liver tissue eventually resulting in a liver abscess. Sodeman (*loc. cit.*) has suggested that this state of hepatomegaly in association with chronic amoebiasis is necessary for a satisfactory implantation of *E. histolytica* in sufficient number to produce acute amoebic hepatitis or a further advanced state of amoebic liver abscess.

The fact that in the cases of Loeber and D'Antoni (*loc. cit.*) and of Sodeman (*loc. cit.*) treatment of the intestinal phase of amoebiasis with insoluble compounds like diiodohydroxyquinoline, or treatment simply of the hepatic phase with chloroquine caused complete regression of hepatomegaly and tenderness, suggests that *E. histolytica* is responsible for these changes because these drugs do not act on the bacteria to any appreciable extent but do act on the amoebae. Reticuloendotheliosis, diffuse liver cell damage and other histopathological changes seen by us in this study of patients of amoebiasis are very similar to those observed by workers in other protozoal infections like malaria (Wahi and Tandon, 1955) and kalazar. These observations afford an indirect pointer that the changes seen in amoebiasis are in response to protozoa and we believe that the histopathological findings in enlarged livers associated with chronic intestinal amoebiasis are caused by *E. histolytica* and not by any bacterial action. However, until it is possible to demonstrate *E. histolytica* in hepatic tissue as some workers had demonstrated in iron haematoxylin preparations in small vessels of the liver, it is not possible to be very dogmatic about this assertion.

The changes morphologically appear to be reversible, a fact which is in accord with clinical observations. The recognition of this state and its proper treatment with specific amoebicides is desirable since this would cause disappearance of the pathologic changes and obviate the chances of further progression of the disease into full-fledged hepatitis or amoebic liver abscess.

Summary

Histological study of liver tissue obtained by liver biopsy in 30 cases of chronic intestinal amoebiasis without constitutional signs of hepatitis is reported. The main findings in descending order of frequency were ; reticuloendotheliosis, diffuse parenchymal liver cell damage, disorganisation of hepatic cell plates, focal necrosis, and portal infiltration. These were consistent with the diagnosis of subacute stage of hepatitis. The changes are in great probability reversible.

There is evidence to show that these changes are caused by *E. histolytica* and not by the bacterial associates as previously suggested by some workers.

Acknowledgments

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OBSERVATIONS ON BILE PIGMENT IN URINE AS AN INDICATOR OF THE PROGRESS OF NON-HAEMOLYTIC JAUNDICE

S. P. GUPTA, M.D. (MED.), M.D. (PATH.), DIP. BACT. (LOND.),
ABHAYA KUMAR, M.SC., D.PHIL.,
AND
K. L. AGARWAL, M.B.B.S.,
Department of Pathology and Bacteriology, K. G. Medical College, Lucknow.

The usual method of judging the extent of jaundice in a case is to estimate the serum bilirubin or the icteric index. Bile pigments are usually present in urine but examination of urine does not give any information regarding the progress of the case. Observations on cases of infective hepatitis were made to see if it could be possible to gauge the progress of jaundice every day by urine examination.

OBSERVATIONS

Bile pigment in urine was tested by Fouchet's test (Harrison, 1949). The concentration of bile pigment in urine was determined like the icteric index of blood (Kolmer and Boerner, 1945). Suitable dilutions of urine were matched against 1 in 10,000 solution of potassium dichromate in a Klett colorimeter. Table 1 gives single isolated observations on 10 cases of jaundice. The blood and urine values were examined on the same day.

From Table 1 it would appear that there is no direct relationship between the serum bilirubin and urine colour index. This is, perhaps, due to the fact that the concentration of bile in urine (and hence the urine colour index) depends on the concentration of urine. The concentration of urine is directly proportional to its specific gravity. Therefore, comparable values of bile pigment in urine could be obtained by dividing the urine colour index by the last two digits of the specific gravity. In order to avoid decimal figures this result was multiplied by 100. The formula would thus stand as follows:

$$\frac{\text{Urine colour index} \times 100}{\text{Last two digits of specific gravity of urine in thousands.}}$$

The figure thus obtained has been named as urine colour factor.

In order to find out the effect of normal urine pigment on the urine colour factor observations were taken in 50 normal cases. Ten selected examples are given in Table 2.

TABLE 1—SHOWING SINGLE ISOLATED OBSERVATIONS ON 10 CASES OF JAUNDICE

Case	Urine colour index	Serum bilirubin	Serum icteric index	Urine specific gravity	Urine colour factor	Icteric index : Serum bilirubin	Urine colour factor : Serum bilirubin
R.N. ...	50	20	190	1008	626	9·5	31
R.S. ...	25	4·6	46	1005	500	10	108
J.S. ...	13·7	9·5	90	1006	230	9·5	24
V.S. ...	16·6	13·5	120	1008	208	9	15
V.C. ...	6·9	6·8	70	1004	172	10	25
K.C. ...	14	5·0	50	1012	117	10	23
V.N. (1) ...	8·2	2	20	1009	91	10	45
B.W. ...	7·1	2	20	1012	59	10	30
R.S. ...	0·62	1·6	18	1002	31	11·2	20
V.N. (2) ...	1·9	0·6	7	1006	31	11·6	50

TABLE 2—SHOWING RESULTS OF OBSERVATIONS ON 10 NORMAL CASES

Urine colour index	Specific gravity	Urine colour factor
1·30	1008	16
0·93	1017	5
3·50	1022	16
3·20	1022	14
1·87	1024	7
1·90	1024	8
5·00	1025	20
3·00	1026	12
2·6	1028	9
3·0	1030	10

These observations showed that the normal urine colour factor varied from 5 to 20 with an average of 12. Fouchet's test was observed to be positive when the urine colour factor reached a figure of about 30 or more. Observations were made every day on fifty cases of jaundice and the result from two typical cases are given in Table 3. Table 4 gives an idea of relationship between urine colour factor and serum bilirubin.

TABLE 3—SHOWING THE PROGRESS OF TWO CASES OF JAUNDICE

Date	Urine colour index	Urine specific gravity	Urine colour factor	Fouchet's test in urine	Serum icteric index	Serum bilirubin Hg. %
		R. S.				
7-6-55 ...	25	1005	500	+++	—	—
8-6-55 ...	8·7	1002	435	+++	—	—
9-6-55 ...	3·6	1001	360	+++	—	—
11-6-55 ...	3·0	1002	150	+++	50	4·8
14-6-55 ...	3·0	1004	75	++	—	—
16-6-55 ...	1·74	1006	29	+	—	—
18-6-55 ...	0·62	1002	31	—	18	1·0
20-6-55 ...	0·72	1009	8	—	—	—
21-6-55 ...	0·56	1004	14	—	6	—
		M. D.				
21-3-53 ...	17	1004	425	+++	—	—
22-3-53 ...	21	1008	260	+++	—	—
25-3-53 ...	5	1004	125	+++	52	4·0
27-3-53 ...	2·4	1003	80	++	—	—
29-3-53 ...	5	1006	83	++	—	—
1-4-53 ...	7	1012	58	+	30	1·8
4-4-53 ...	3·5	1010	35	—	—	—
6-4-53 ...	10	1020	50	+	—	—
9-4-53 ...	3	1010	30	—	8	—

TABLE 4—SHOWING RELATIONSHIP OF URINE COLOUR FACTOR AND SERUM BILIRUBIN

Date	Urine colour factor	Serum bilirubin	Urine colour factor : Serum bilirubin
	V. N.		
10-6-55	410	4·1	40
16-6-55	90	2·0	45
20-6-55	31	0·6	51
	J. S. M.		
1-6-55	525	23	23
6-6-55	170	8·0	21
14-6-55	230	9·5	25

DISCUSSION

Bile pigments start appearing in urine when serum bilirubin rises above the renal threshold level, and their amount in urine is expected apparently to vary with its level in blood. Fouchet's test indicates the presence or absence of bile pigments and can give only a very rough idea of its amount in urine. Table 3 shows that the determination of urine colour factor can indicate the daily progress of a case of jaundice.

The ratio of icteric index to serum bilirubin appears to be constant as is evident from Table 1. On the other hand, the ratio of urine colour factor to serum bilirubin does not show any constant relationship when data from different patients are examined. In Table 4 the ratio of urine colour factor to serum bilirubin appears to be approximately constant in the same case on different days. Hence the urine colour factor can give a comparable quantitative idea of the serum bilirubin content. The ratio is, however, markedly variable when any two cases are compared although the amount of serum bilirubin in those cases may be the same. This difference may be due to the varying concentrating power of kidneys from different patients for bilirubin.

This test cannot give correct information in conditions where specific gravity of urine is raised on account of substances like sugar and albumin. It will also not give any useful information when bile pigments cease to appear in the urine but the serum bilirubin is still above the normal.

It is possible to find out the urine colour factor even in the absence of a colorimeter. 20 ml. urine are placed in 100 ml. cylinder and tap water is

gradually added till the colour as observed directly, matches with a 1 in 10,000 solution of potassium dichromate in another cylinder of the same diameter. Urine colour factor can be calculated by the formula:

$$\frac{\text{Total amount of diluted urine} \times 100}{20 \times \text{Last two figures of specific gravity}}$$

Summary

(1) A technique has been described for having an approximately quantitative idea of the daily progress of jaundice by an estimation of bile pigments in urine by matching with a standard solution of potassium dichromate.

(2) By taking the variable factor of urine specific gravity into consideration the daily progress of the jaundice can be judged by determination of urine colour factor by the following formula:

$$\frac{\text{Urine colour index} \times 100}{\text{Last two digits of specific gravity of urine.}}$$

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PRACTITIONERS' SERIES

CONGENITAL MEGACOLON

P. B. SULAKHE, F.R.F.P.S., F.R.C.S. (EDIN.),

Department of Surgery, Sassoon Hospital, Poona.

The essential pathological feature of congenital megacolon is an enormous dilatation, hypertrophy, elongation and ulceration of the whole colon or of the left half of the colon. The dilatation may be restricted to a part of the transverse colon or the sigmoid loop. The rectum may also be involved but the terminal sigmoid or the upper rectum commonly shows a constricted segment.

There are three main types of megacolon:

(1) True congenital megacolon due to aganglionic segment where the proximal part dilates, hypertrophies and gets elongated.

(2) Organic type, in which there is mechanical obstruction due to spasm of the internal sphincter or stricture or tumour.

(3) Dolichocolon, redundant loop of the sigmoid which gets twisted and produces intestinal obstruction.

Clinical picture—The symptoms of persistent constipation and absence of spontaneous bowel movement are present from birth or early infancy. There may be one bowel movement once a week or even once a month. The infant has a wasted look with distended abdomen which is more marked due to contrast. Diarrhoea is an occasional and deceptive symptom when liquid stool passes by the side of scybalous masses. Episodes of vomiting may be present. Anorexia, wasting and lassitude gradually follow. Severe distention may cause circulatory and respiratory embarrassment and be the cause of death.

On physical examination there is marked distention with flared ribs, dilated veins, and stretched umbilicus. On palpation of the abdomen thickened colon with scybalous masses may be felt. Hard scybalous masses may be felt on rectal examination. The disease may be present in varying degrees of severity. Some acute cases may need urgent surgical intervention. There may be associated enlargement of the urinary bladder.

Diagnosis—Diagnosis is made by taking proper history and clinical examination of the patient. Barium enema (Neuhansser's technique) is essential. By injecting only a small amount of barium and examining the patient in oblique position, the narrow segment of colon interposed between rectum and sigmoid colon can be clearly demonstrated in true congenital megacolon. Apart from this narrow segment the other important points to be noted are: (1) the rectum appears to have a normal calibre, (2) The right side of the colon presents good haustral markings and normal contractility. (3) The left side of the colon is markedly dilated with absence of haustral markings or persistaltic activity. It is essential to differentiate the different types of megacolon because the treatment is different. In the organic type of megacolon due to mechanical obstruction there is absence of the narrow segment. In the dolichocolon there is redundant loop present without a narrow segment and the haustrations an contractility is normal.

Treatment—Various methods have been tried. Medical regime, spinal anaesthesia and sympathetic operations did not give a true answer to the problem. Swenson *et al* (1949) have given a solution based on histopathological study.

They advocate removal of almost the whole of the rectum including the narrow segment and part of the dilated sigmoid and anastomosis of the sigmoid to the remaining part of the rectum by pull through method. State (1952) has modified this procedure by removing only the narrow segment and the whole of dilated part of the colon

and does the anastomosis between the normal colon and remaining part of the rectum. He adopts this procedure entirely from above through the abdominal incision. In one case the narrow segment and 5" of the dilated sigmoid was removed by the author leaving behind some dilated part and an anastomosis was done from above between the remaining part of the colon and the rectum. The results of this operation were very satisfactory.

Two cases are reported, demonstrating the two types. The first case is of true congenital megacolon and the second is of organic type due to spasm of internal sphincter of the anus.

Case Reports

Case 1—A boy aged 6 months was brought for absolute constipation and marked distention. The trouble was present from birth but with the help of purgatives and enemata there used to be a motion once in 7 days or 15 days. The boy was going down in health and purgatives were not working as before. The condition was acute which required immediate surgical intervention. A transverse colostomy was performed. After three months the child was brought back for the same trouble. On examination it was found that the colostomy opening had become very small and so the original trouble recurred. The opening was dilated and the child was sent home. He was brought for readmission after 3 weeks. On readmission the descending colon and sigmoid were found to be markedly dilated with a narrow segment between the dilated sigmoid and the rectum below. There was a big fecolith, hard like a stone, in the dilated part of the colon. The fecolith was removed. Resection of the narrow segment and 5" of the dilated sigmoid with end to end anastomosis was performed from above. Some part of the dilated descending colon was left behind. Postoperative convalescence was uneventful. Intramuscular oxytetracycline was used in the pre- and postoperative period. The colostomy spur fell down automatically and the boy was able to pass stools every day normally from below without the help of any medicines or enemata. Colostomy opening is still there but no faecal matter comes out through the opening. The boy is considerably improved in health and will have to come back for closure of the colostomy opening.

Case 2—A girl aged 5 years was sent from remand home for examination and observation. This girl had difficulty in bowel movement during the period of observation and showed repeated attacks of partial intestinal obstruction coming off and on. The girl was very thinly built with marked emaciation. Appetite was very poor. Abdomen had a doughy feel. Respiratory and cardiovascular systems were normal. E.S.R. was raised. On laparotomy marked dilatation of the sigmoid and the rectum, extending low down up to the anal canal, was found. The abdomen was closed without doing anything. Regular and gradual dilatation of the anal sphincter was carried out in the postoperative period. The child is able to pass normal stools spontaneously without any aid ever afterwards.

Acknowledgments

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SPECIAL ARTICLES

BED AND CHAIR REST IN ACUTE MYOCARDIAL INFARCTION

MILTON PLOTZ, M.D., F.A.C.P.,

Professor of Medicine, State University of New York, Physician, Kings County, Brooklyn State, Goldwater Memorial Hospital and Consulting Cardiologist, Bushwick and Manhattan General Hospitals.

The treatment of acute myocardial infarction (coronary occlusion; coronary thrombosis) has undergone much modification in the past decade in the United States (Plotz, 1956). Perhaps the outstanding feature of this change has been our attitude toward bed rest during the acute illness. It had long been the general practice in this country to keep patients flat in bed for at least six weeks, a period which is now regarded as too long for most.

Once the diagnosis is made, all ill persons with this condition should be put to strict bed rest for at least 48 hours. This period should be continued for as long as shock, if this condition exists, is present. For the majority of cases of acute infarction, in which shock is not a feature, prolonged confinement in the recumbent position no longer seems necessary.

Dock (1944) first proposed the use of early chair rest and the commode in the treatment of his patients. Since then, Levine and Lown (1952) made this idea increasingly popular. He and his co-workers have shown that flat bed rest permits maximal venous return from the periphery, with an associated increase in blood volume, venous pressure, and ventricular diastolic filling, thus augmenting the work of the heart. Sitting up permits gravity to mobilise fluid into dependent

parts of the body rather than into the pulmonary circuit, and the vital capacity may be increased by as much as 200 c.c. Bed rest "saps morale, provokes desperation, unleashes anxiety and ushers in hopelessness." It fosters constipation, thrombophlebitis, osteoporosis, negative nitrogen balance, hypostatic pneumonia, atelectasis, and prostatic difficulties. Pulmonary oedema may actually be prevented by an enhanced sense of well-being, indicating that emotion may sharply increase the cardiac output. The over-all mortality among their patients was 9 per cent, and they encountered no complications which could be attributed to the treatment.

A detailed study of 6 patients has shown that when the patient assumes the armchair position after being recumbent, the heart rate usually increases slightly and the mean circulation time is lengthened (Coe, 1954). In 4 of the 6 patients, the calculated pulmonary blood volume was diminished, in 1 of them by as much as 685 c.c., with prompt relief of dyspnoea. The hematocrit value increased slightly, and the stroke volume decreased. The work of the heart was reduced by 23 per cent when the patient was in the armchair position. On the basis of the evidence in this study, it seems possible that the coronary flow is not diminished and that it may even be increased so long as there is no postural hypotension.

Levine's patients are permitted, except when they are in shock, to get into an armchair 24 to 48 hours after onset of the infarction, and to stay there to the point of fatigue, usually several hours the first day. "With a comfortable chair close to the bedside, the patient is helped to sit up in bed by 2 people, one on either side. His legs are then dangled over the edge of the bed. He stands, with support on both sides, and is guided and helped into the chair. Care is taken that no pressure is exerted by the chair on the popliteal spaces or calves in order to avoid interference with circulation." A bedside commode is used. The patient is soon allowed to feed himself and to comb his hair, but not to shave himself. This does *not* mean early ambulation, Levine emphasises. The patient should rest for 4 to 6 weeks, at the end of which time scar formation should be complete or well on its way. Others are enthusiastic in their suport of this regimen, although some wait until the fifth day, on the average, before allowing the patient to sit up (Wilson and Ward, 1954). A low bed rather than a hospital bed should be used.

A modification of the Levine method has been used in 39 patients by Beckwith *et al* (1954); their report on the results is enthusiastic. Armchair treatment was started only after shock had been controlled or pain had almost disappeared. The schedule followed was: 30 minutes three times a day for 3 days; 60 minutes three times a day for 3 days; 90 minutes three times a day for 6 days; thereafter the patient was allowed up at will. This regimen seemed to be attended by psychologic and physical benefits; no apparent ill effects were suffered by any of the patients. In their opinion, the risk of aneurysm formation is probably not increased in patients treated by the armchair method and might even be lessened since the cardiac work is reduced; this is in contrast to the belief that the risk is increased in patients who do not have adequate bed rest. They, too, emphasise that chair treatment does not mean early ambulation.

I have found the armchair regimen useful in over half of my recent cases of infarction, but the patient, and often his physician, must be re-educated. Only an inteligent and cooperative patient takes the physician at his word that chair rest does not mean ambulation. The treatment may encourage an easygoing attitude towards the gravity of the condition, which may cause trouble when the patient who is being treated at home is inadequately supervised. I have been asked to see patients who inferred from the family physician's instructions that a strenuous social life as well as sexual activity were permitted. There is considerable risk, too, that laymen in close association with the patient may feel that "he isn't sick if he's not in bed"; even the hospital staff may share this view (Mitchell *et al*, 1954). Surgical beds are becoming available which permit dropping the legs as well as raising the head. If such a bed can be obtained, the patient need not be lifted out to assume the armchair position.

The use of 9 inch wooden blocks under the headposts of the bed has been suggested, to prevent nocturnal gravitation of fluid and possible paroxysmal dyspnoea. A board or box at the foot of the bed will keep the patient from sliding forward.

Length of rest—Whether the armchair regimen has been used or not, the patient with uncomplicated major infarction is out of bed by the beginning of the fourth week. Getting the patient out is usually preceded by "dangling" (sitting on the edge of the bed with a support under the feet) for a day or two.

There is general agreement that even in favourable cases rest should be continued for 6 weeks, by which time scar formation is firmly established and full mobilisation may be permitted. The patient may be allowed to take a few steps to a comfortable chair near the bed or to a nearby lavatory during the second 3 weeks. He may be

permitted to stand to urinate, but a bedside commode or bedpan on the chair should be used for bowel movement.

Under certain circumstances, bed rest, or at least very strict armchair rest, is essential during the second 3 weeks. These circumstances are: (1) If the sedimentation rate, leucocyte count, or temperature remains unaccountably high. (2) If there is tachycardia or decompensation. (3) If changes in the electrocardiogram continue to appear; (4) If cardiac pain returns after having subsided.

Starting with the seventh week, the patient may be allowed to walk around in his home, or in the hospital, even when the sedimentation rate is high or there is mild tachycardia on exertion. Complete rest should be continued if there is tachycardia at rest, or decompensation. Every effort should be made to re-establish compensation, but here the rules for treating cardiac decompensation in other conditions begin to apply. Intractable mild dyspnoea, or oedema of the legs, or an enlarged liver may still be compatible with some mobilisation. Naturally, the over-all prognosis is somewhat worse, and the period for complete rehabilitation, especially economic, will be prolonged.

Continuing change in the electrocardiogram, except when this is definitely recognised as due to healing of the infarct, is an absolute indication for continued rest. Even minor changes, especially in leads not previously affected, should be regarded as indicative of progressive myocardial damage; I have found the outlook for complete recovery in such patients much worse. Insistence on a stable electrocardiogram before allowing full activity is a wise precaution; two electrocardiograms, a week apart, should be identical.

Conclusions

Strict bed rest in recumbency for long periods no longer seems necessary in the treatment of acute myocardial infarction (coronary occlusion; coronary thrombosis).

The early use of the armchair method of management is advocated. The advantages are given in detail.

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SOME OBSERVATIONS ON THE RELATION OF ENDOCRINE GLANDS AND THEIR RESPONSE TO X-RADIATION

T. C. WASSON, M.D., D.M.R. (LOND.),

Ex-Senior Radiologist, Medical College, Nagpur.

Most of the endocrine glands exhibit a demonstrable response to x-radiation and are said to be radiosensitive. The sensivity is variable and is directly proportional to the intensity of the functional activity of the gland. This can be verified by observation on tissues or cells having excretory function, such as breast. In resting stage, it is radio-resistant and requires 105 per cent U.S.D. to cause shrinkage by radiation; whereas, during lactation, it becomes radiosensitive and the same effect can be produced by 45 per cent U.S.D.

The cells also possess recuperative ability, i.e., the power of recovery from the effects produced by the radiation. This again depends upon the nature of cells. Rapidly growing cells recover quickly from the effects of radiation than the slow growing ones. Individual groups of cells have different radiosensitivity and, therefore, the effect of radiation can be said to be selective. It is, therefore, possible to alter or modify the functions of each group independently without disturbing the function of the rest of the gland. This has been observed by x-radiation of the ovaries. The Graafian follicles and the corpus luteum have different radiosensitivity. The former are more radiosensitive than the latter. Small doses given to the ovaries stimulate the Graafian follicles in the treatment of amenorrhoea and dysmenorrhoea without affecting the corpus luteum.

The functions of endocrine glands are very closely interlinked. It is a common experience that if the functions of the ovaries be totally or partially suppressed, the functions of other glands also undergo changes. Complete removal of the ovaries has been seen to cause hypothyroidism. Conversely, it is also true that due to disorder of the thyroid, the ovaries suffer. The clinical and experimental works go to show close relationship between ovary, thyroid, pituitary and thymus.

The investigation of the exact functions of these glands offers a number of difficulties. It is due to the fact that they exert their influence upon one another. Their secretions, i.e., hormones are chemical substances and more than one gland is capable of manufacturing the same hormone. Inhibition of one activates the other. The difficulty becomes more obvious when it is realised that the functions of the glands do not depend upon blood circulation only, but is regulated by stress and strain and the vegetative nervous system. On the contrary, it is also believed that the tonus of sympathetic and parasympathetic is affected by the hormones.

The effect of x-radiation on these glands depends upon its dose, frequency, the phase of the functional activity and radiosensitivity of the gland.

It can produce the following reactions in the order of increasing doses:

(1) *Small doses given for a short time stimulate the activity of the cells*—It must be mentioned here that there is a lot of controversy over this action. The antagonists of this theory claim that x-radiation has only one action and that is destructive. I still hold the old view on the following grounds:

(*a*) Only absorbed energy in a cell can produce the reaction. To be destructive, the quantum of energy should be enough to influence the atomic and molecular changes to such an extent that they prove incompatible with the life of the cell. Naturally, a quantum smaller than this would not endanger life and, similarly, there would be a smaller quantum which will not be destructive. The vital processes of the cell can be activated by stress and strain only. There should be a quantum which will act like strain and stress.

(*b*) The cells can stand the smaller quantum without permanent damage and are also capable of recovering from this injury.

(*c*) Stimulation effect of small doses of ultraviolet radiation, heat, cold, sunlight, air and water has been recognised. Why should it be denied when the same electromagnetic quantum of energy is applied in the form of x-radiation? It is only the question of size of the quantum.

(*d*) Clinically, the small doses of 5-10 per cent U.S.D. without backscatter on the ovaries have a favourable effect in amenorrhoea, dysmenorrhoea and sterility of ovarian origin.

(2) *Temporary impairment of the function (complete recovery still possible)*—Exposed to small doses for a long time without interruption the radiologists and workers engaged in manufacturing and testing of x-ray tubes are liable to suffer from subnormal libido, erection and ejaculation leading sometime to aspermia, early fatigue, loss of concentration and failing of memory. In women amenorrhoea, premature senility and irritability of temper set in. This points to hypogonadism. Complete recovery is possible, if the worker is removed from the field of x-radiation. Men recover earlier than women, provided the damage is not too advanced. This is due to cumulative effect. It may show changes in blood as well.

(3) *Complete destruction of highly radiosensitive group of cells without affecting the less sensitive*—Graafian follicles are more easily destroyed than corpus luteum.

(4) *Total destruction of cells with no possibility of recovery*—This is demonstrated in x-radiation burns which are not known to heal.

The hyperfunction of the thyroid acts upon the ovary and causes dysfunction which is manifested by prolonged and increased menstruation, sometimes, dysmenorrhoea. The fact of primary hyperthyroidism must be confirmed by the rise of BMR and the clinical picture. Goitre of variable sizes is present in most cases but is not always proportionate to the degree of hyperthyroidism. Its enlargement may not be visible at all. The patient at the same time may be suffering from latent hyperthyroidism. The ovarian dysfunction associated with it is not improved by administration of ovarian hormones and curetting. Radiotherapy, 40 per cent U.S.D., in one dose, to the thyroid has proved successful. The patient recovers gradually within three or four months without further treatment and menstruation changes to normal.

Young girls just approaching puberty may suffer from dysfunction of the ovaries. They are very nervous; suffer from tachycardia, palpitation and fine tremors may be associated with slight exophthalmos. This picture may be further complicated by slight rise of temperature to 100-101°F. One dose 40 per cent U.S.D. on the thyroid produces good response.

Summary

Radiotherapy of the endocrine gland is an interesting subject. It is cheap, safe, and quick in response. The technique is simple and requires no hospitalisation or after-care.

These glands differ in radiosensitivity from one another. It is variable in the same gland. The variation is directly proportional to the functional activity of the cells. Some of them, such as, pancreas, suprarenals, are unsuitable for radiotherapy as they are surrounded by tissues which are more radiosensitive and, therefore, their exposure to the action of x-rays cannot be undertaken without damaging the surrounding tissues. Pituitary, thyroid, ovaries and breast and thymus can be x-radiated without harm. It has also been observed that these glands during their normal activity are radio-resistant and become radiosensitive only when their functional activity is accelerated. During this stage, it is possisble to curb their activity and bring it down to normal. Hypofunctioning of the glands is rather a complicated phenomenon. It is, mostly, due to surgical excision, tumour formation or such other causes which cause reduction in the number of secreting cells. It is, therefore, not possible to make up the deficiency of the quantity of the hormone by stimulation of the remaining number of cells. On the other hand, where the secreting tissue is not reduced and it is just a question of functional deficiency, the small doses do stimulate them. In young girls approaching puberty, the early 'periods' are either scanty or painful ; one small dose given to ovaries of such girls produces the desired effect. Hypofunction of testes is invariably secondary due mostly to pituitary or thyroid and, therefore, their treatment has a good response in testes.

PUBLIC HEALTH

EFFECT OF SKIMMED MILK POWDER ON SCHOOL CHILDREN

S. B. LAL, M.B.B.S., D.P.H. (EDIN.),

Deputy Director of Health Services, Secretariat, Patna,

AND

A. BOSE, L.M.P,

Medical Officer, Department of Nutrition, Public Health Institute, Patna.

Aykroyd and Krishnan (1937) reported better increase in height and weight of 122 boys living in the hostels of a school, each of whom received one ounce of skimmed milk powder reconstituted to eight ounces, daily for 3 months. Similar effects were observed by Krishnan (1938) in 20 school children who were given eight ounces of fresh liquid skimmed milk daily for the same period.

Early in 1954 a conditional offer of skimmed milk powder from the United Nations International Children Emergency Fund (UNICEF) was accepted by the State of Bihar. A comparative nutritional study in groups of schools to which the milk was distributed and to those who were not getting the milk, was carried out with this skimmed milk powder, the composition of which was as follows :

Protein 35·35, fat 0·74, lactose 49·00, calcium 0·14 and total mineral matters 7·98 g. per cent respectively.

The results of such a feeding which was done for nearly 12 months, are presented.

TECHNIQUE

Two closely situated and easily accessible high schools from each of the districts of Bhagalpur, Darbhanga, and Champaran were selected for the feeding trial as follows :

District		School	Number of students between ages 7-14
Bhagalpur :	(A)	T. N. J. Collegiate School ...	165
	(B)	Zilla School	133
Darbhanga :	(A)	Marwari H. E. School ...	119
	(B)	M. C. H. E. School ...	109
Champaran :	(A)	Mehsi H. E. School ...	75
	(B)	Tirhut Vidyalay ...	95
		TOTAL ...	696

A total of 359 boys of schools marked *A* served as the control and each of the 337 boys of schools marked *B* received one ounce of skimmed milk powder reconstituted to eight ounces during the school hours every day from July 1954 to June 1955. All these boys were day scholars belonging to middle and poor class families. Before the start of the feeding and at the close all the boys of both the groups were examined for nutritional defects according to the technique suggested by the Nutrition Advisory Committee (1948). Height in inches and weight in pounds were also recorded under uniform conditions.

TABLE 1—SHOWING CHANGES IN HEIGHT (IN INCHES)

Age in years	Control			Experimental		
	Height			Height		
	Initial	Final	Increase	Initial	Final	Increase
BHAGALPUR						
7	45·7	47·1	1·4	47·3	48·9	1·6
8	47·9	49·6	1·7	48·0	50·4	2·4
9	50·8	52·2	1·4	50·1	52·2	2·1
10	53·0	54·2	1·2	53·4	55·1	1·7
11	55·0	56·8	1·8	54·8	56·8	2·0
12	56·7	58·1	1·4	55·8	57·7	1·9
13	60·2	62·1	1·9	58·1	60·2	2·1
14	62·9	64·1	1·2	60·7	62·6	1·9
Mean increase			1·5			1·96
DARBHANGA						
8	47·3	48·5	1·2	48·2	49·9	1·7
9	51·2	52·6	1·4	50·6	52·5	1·9
10	52·8	54·6	1·8	53·1	54·8	1·7
11	53·6	55·1	1·5	54·8	56·6	1·8
12	56·4	57·8	1·4	56·9	59·0	2·1
13	59·7	61·3	1·6	59·2	60·9	1·7
14	61·8	63·2	1·4	62·4	64·2	1·8
Mean increase			1·47			1·81
CHAMPARAN						
7	48·4	49·7	1·3	47·7	50·1	2·4
8	49·2	50·9	1·7	48·6	50·3	1·7
9	51·4	52·9	1·5	50·7	52·4	1·7
10	52·8	54·6	1·8	52·5	54·6	2·1
11	54·2	59·9	1·7	53·9	55·8	1·9
12	56·4	57·8	1·4	55·2	57·4	2·2
13	59·3	61·1	1·8	58·6	60·0	1·4
14	61·1	62·9	1·5	60·8	63·1	2·3
Mean increase			1·59			1·96

TABLE 2—SHOWING CHANGES IN WEIGHT IN POUNDS

Age in years	Control			Experimental		
	Weight			Weight		
	Initial	Final	Increase	Initial	Final	Increase
BHAGALPUR						
7	43·6	44·6	1·3	45·7	49·1	3·4
8	49·6	51·1	1·5	49·0	52·2	3·2
9	54·8	56·4	1·6	50·4	53·9	3·5
10	63·0	66·1	3·1	61·0	63·9	2·9
11	68·3	71·9	3·6	64·0	68·0	4·0
12	75·3	78·7	3·4	70·3	74·0	3·7
13	86·9	90·9	4·0	74·5	80·6	6·1
14	98·0	101·3	3·3	88·6	92·0	3·4
Mean increase			2·72			3·77
DARBHANGA						
8	53·3	55·8	2·5	51·3	54·2	2·9
9	56·5	59·3	2·8	56·8	59·6	2·8
10	62·1	65·7	3·6	58·4	63·0	4·6
11	65·6	68·3	2·7	63·3	65·7	2·4
12	71·2	74·6	3·4	69·8	73·2	3·4
13	76·5	79·1	2·6	74·5	78·1	3·6
14	86·8	90·4	3·6	83·4	87·6	4·2
Mean increase			3·03			3·41
CHAMPARAN						
7	51·3	54·2	2·9	53·4	56·5	3·1
8	56·7	59·6	2·9	54·9	58·3	3·4
9	58·4	60·9	2·5	57·8	61·2	3·4
10	63·3	66·7	3·4	62·5	66·7	4·2
11	66·4	68·4	2·0	67·3	71·0	3·7
12	69·8	71·5	1·7	71·8	74·6	2·8
13	76·4	78·7	2·3	77·4	81·5	4·1
14	87·5	90·6	3·1	86·8	89·4	2·6
Mean increase			3·10			3·54

TABLE 3—SHOWING INCIDENCE OF NUTRITIONAL DEFECTS BEFORE AND AFTER SKIMMED MILK FEEDS

Defects	BHAGALPUR				DARBHANGA				CHAMPARAN			
	Control		Experimental		Control		Experimental		Control		Experimental	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final	Initial	Final
Conjunctival xerosis ...	2·4	3·0	2·2	1·5	1·7	3·3	3·6	1·8	5·2	6·3	2·6	2·6
Conjunctival pigmentation	4·2	3·6	4·5	3·8	3·3	2·5	5·5	4·5	8·4	6·3	8·0	5·4
Conjunctival discharge ...	8·4	3·6	8·3	2·2	5·0	3·3	8·2	2·7	5·2	2·1	6·6	8·0
Vascularisation of cornea ...	1·8	0·6	1·5	—	2·5	—	3·6	0·9	2·1	1·0	2·6	—
Angular conjunctivitis ...	5·4	1·2	2·2	—	7·5	1·7	12·8	2·7	7·3	3·1	4·0	1·3
Dental caries	3·6	3·0	5·2	5·2	4·2	5·8	5·5	4·5	7·3	8·4	6·6	6·6
Phrynoderma	4·8	6·6	3·0	2·2	7·5	5·8	8·2	5·5	7·3	8·4	8·0	8·0

The figures for height and weight of all the children of the two groups were compared and the results were as below:

	Height in inches		Weight in pounds	
	Control	Experimental	Control	Experimental
Average increase ...	1·52	1·92	2·95	3·58
't'	5·70		2·83	
df	44		44	
Significant ...	Significant		Significant	

The results of the clinical examination of children and the nutritional defects observed in them before the start of feeding and at the end are shown in Table 3.

Discussion

The objective of the feeding trial was to assess the good which would acrue from the skimmed milk feeding scheme. The feeding had been continued for nearly a year and the increased height was 1·81 to 1·96 inches in the experimental group with an over-all average of 1·92 inches as against 1·52 in the control. The increase in height is statistically significant. In the course of 30 days Aykroyd and Krishnan (*loc. cit.*) observed an average increase of 0·61 to 0·69 inches in experimental group of boys while Krishnan (*loc. cit.*) during the same period recorded increase of 0·61 to 0·67 inches. The large increase in the present trial was due to the longer duration of feeding and it could be expected that even with eight ounces of skimmed milk supplement to the existing diet of the children of this State their height would increase by 0·4 inches more in a year.

The increase in weight of the boys in the experimental group when analysed statistically is significant. The over-all average increase in weight was only 0·63 pounds as against 2·64 and 1·07 pounds respectively observed by the authors stated above. The small increase in weight might be due to the difference in the quality and quantity of foods consumed by boys in the present experiment who were all day scholars as against those in the experiments of the two earlier authors where they were living in school hostels.

A study of the incidence of nutritional defects shown in Table 3 would clearly indicate their considerable diminution in the experimental as compared to the controls.

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Acknowledgment

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CASE NOTES

ADENOLYMPHOMA OF SALIVARY GLAND

N. C. DEY, B.SC., M.B.B.S. (CAL.), D.BACT. (MANCHESTER),

AND

R. DAS, M.B.B.S. (GAUHATI),

Department of Pathology, Assam Medical College, Dibrugarh.

Adenolymphoma is a relatively rare tumour arising in the vicinity of the parotid region; it is rarer still in the submandibular region. It was first described by Albrecht and Arzt (1910) under the alternative name of papillary cystadenoma. They observed close resemblance of the tumour epithelium to that of the epithelium of the salivary ducts. Nicholson (1923) reported two cases as adenomas of heterotopic salivary tissue in the preparotid lymph glands. Carmichael *et al* (1935) and Plant (1942) reviewed previously reported cases and also added their own to bring the total number upto 62. Since then Willis (1948) reported two cases of typical lymphadenoma of the salivary gland.

At present, the accepted view regarding histogenesis is the one put forward by Nicholson (1923). According to him these tumours arise from heterotopic salivary tissue in the lymph nodes. Neisse quoted by Willis (1948) first observed that heterotopic salivary tubules are frequently present in the preparotid lymph glands of infants. Nicholson reported a case of persistence of such tubules in the lymph node of an adult. Willis

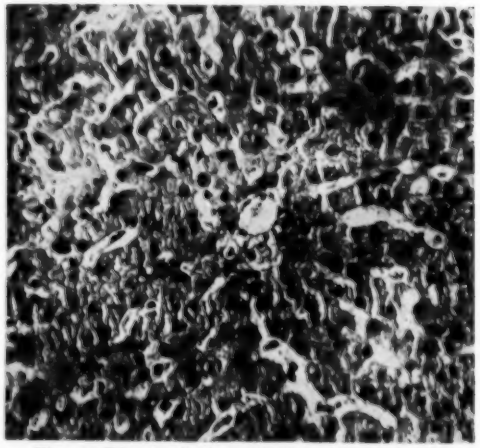

Fig. 1—Disorganisation ofthe hepatic cell plates. H. & E. × 150

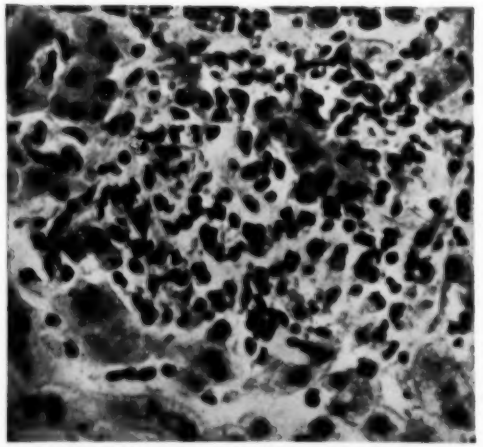

Fig. 2—Focal necrosis of the liver cells with cellular infiltration of the necrosed area. H. & E. × 300

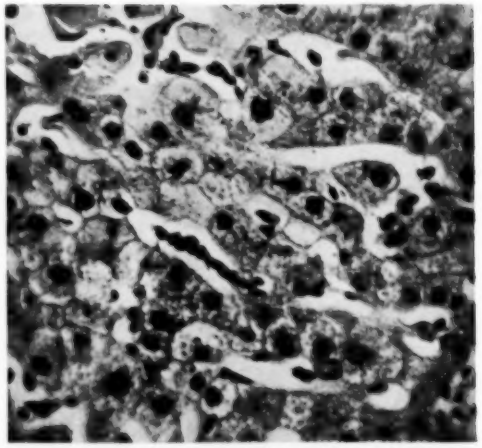

Fig. 3—Reticulo-endothelial cell hyperplasia. H. & E. × 300

KASLIWAL AND BHATIA—*Liver Changes in Chronic Intestinal Amoebiasis (p. 127)*

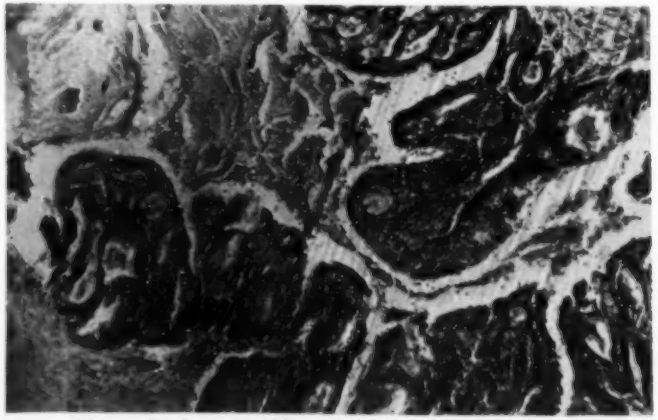

Fig. 1—Cystic spaces with epithelial fringes. (Low 5 × 10)

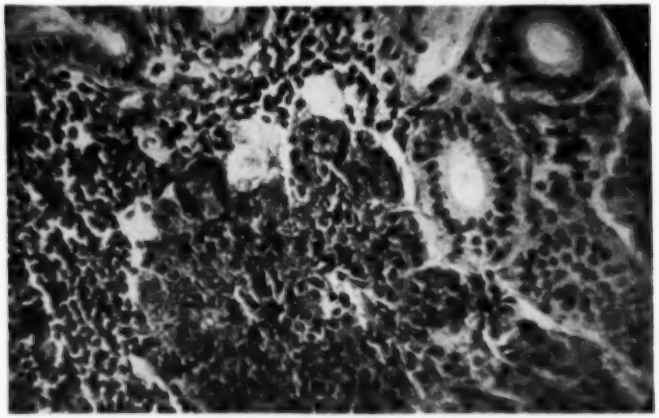

Fig. 2—Tubules and lymphoid tissue. (High 5 × 43)

DEY AND DAS—*Adenolymphoma of Salivary Gland (p. 138)*

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CASE NOTES

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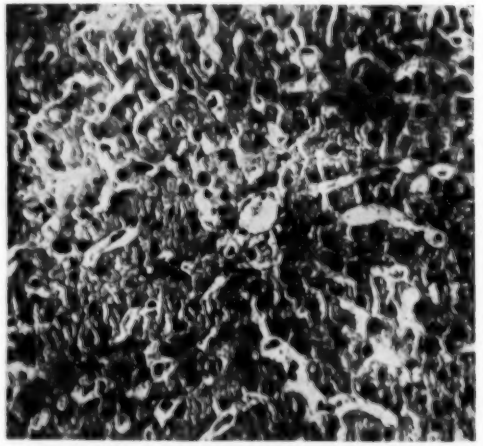

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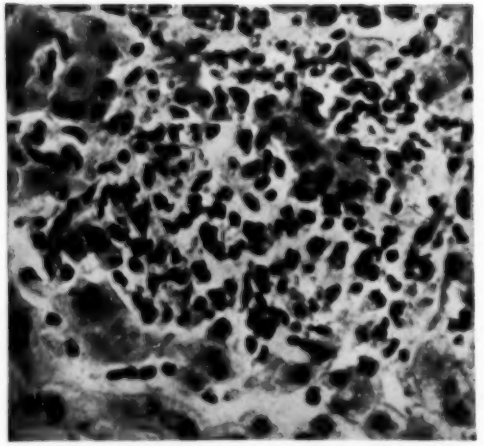

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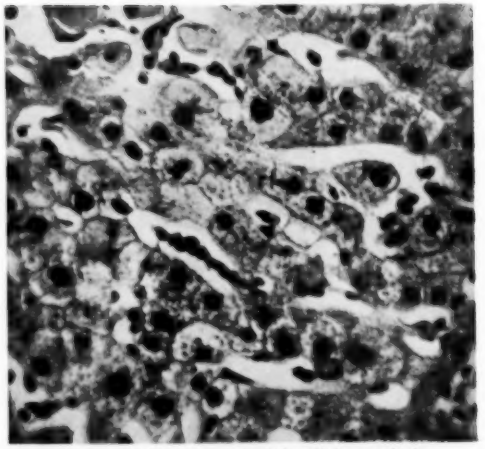

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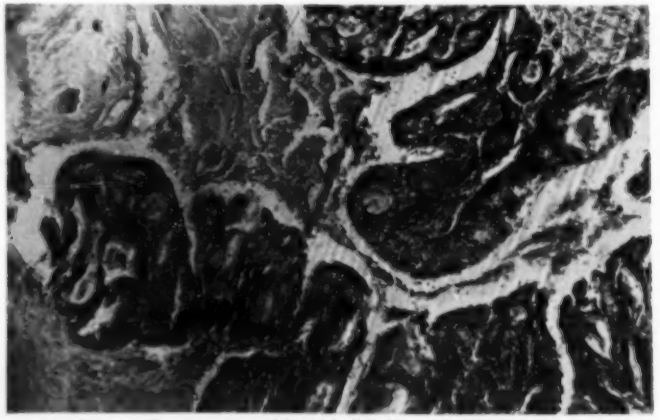
KASLIWAL AND BHATIA—*Liver Changes in Chronic Intestinal Amoebiasis (p. 127)*



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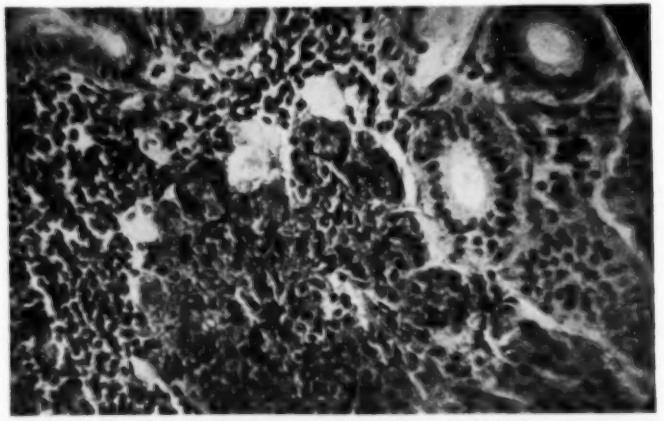

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DEY AND DAS—*Adenolymphoma of Salivary Gland (p. 138)*

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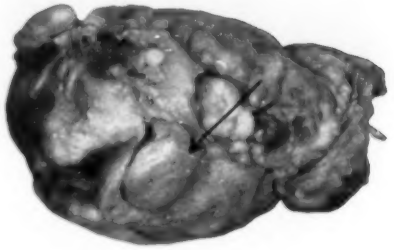

Fig. 1—Photograph showing the lobulated appearance of the tumour mass and a small part of the kidney indicated by arrow.

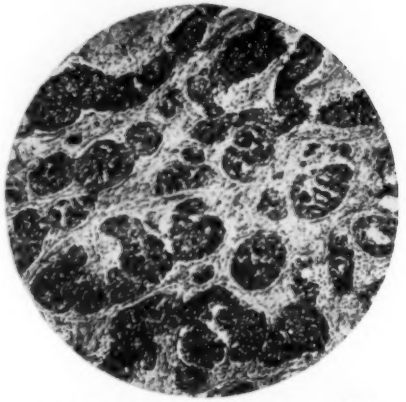

Fig. 2—Microphotograph showing epithelial clumps with tendency of tubule formation, with mesenchymal tissue dispersed in between. (Low × 55)

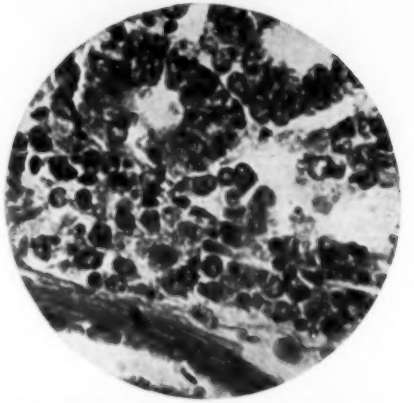

Fig. 3—Microphotograph showing immature tubule formation. Some of the cells show mitotic figures. (High × 530)

MUKHERJEE ET AL—*A Case of Nephroblastoma with Autopsy Report (p. 141)*

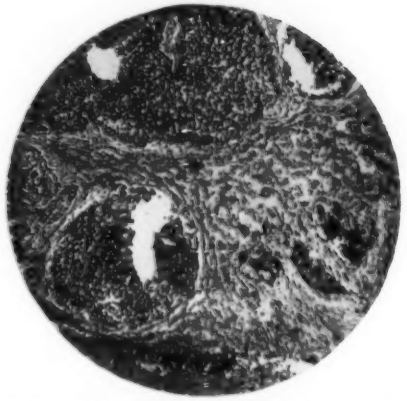

Fig. 4—Microphotograph showing metastasis in the liver. The tumour cells have overwhelmingly replaced liver cells. (Low × 55)

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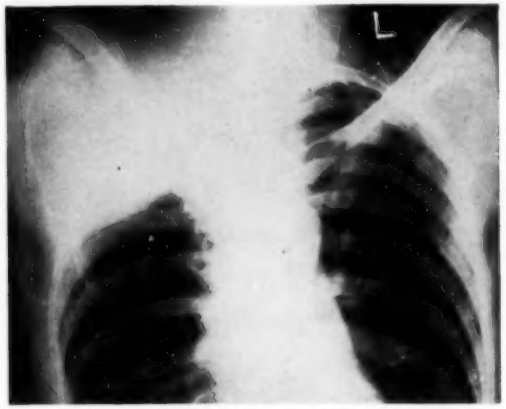

Fig. 1—X-ray chest PA. Dense opacity seen in the apex of right lung.

Fig. 2—X-ray chest. Deep exposure : destruction of the posterior ends of the right upper ribs.

KRISHNASWAMY—*Pancoast Syndrome (p. 142)*

(1948) supported Nicholson's view. The case under report is corroborative of the origin of the tumour from the remnants of structures of salivary gland in the preparotid lymph node.

Case Report

A Muslim female child, 6½ years old, was having painless swelling for 6 months below the lobule of the right ear. The size of the growth was 1″ × ¾″. Onset was insidious. The growth was capsulated and on excision was found to be partly cystic containing a turbid fluid. It was considered to be an infected sebaceous cyst.

Microscopic examination: Sections showed a large number of duct like tubules and cystic spaces with papillary projections lined by columnar epithelium. In many places there was a double layer of cells—comprising of columnar epithelium towards the free surface and a layer of smaller flattened cells towards the basement membrane. In some places there was marked proliferation of epithelial cells forming solid alveolar structures. The stroma chiefly consisted of lymphoid tissue which showed aggregation in many places, forming follicle like structures. Active germ centres were present in many follicles. There was a variable amount of fibrous tissue and scanty myxomatous tissue (Figs. 1 and 2, *vide* Plate).

Discussion

From the statistical record of tumours, adenolymphoma appears to be very rare and the incidence of salivary lymphadenoma and mixed parotid tumour is 0·045 per cent and 0·58 per cent respectively.

The earliest age incidence on record is 2½ years (Plaut, 1942). This tumour is generally found to occur in people after middle life. The age in the case under report was 6½ years.

Microscopically the tumour shows the structure of lymphoid tissue wherein lies epithelial cells with glandular structures resembling salivary ducts and tubules. The histopathology of the specimen conforms to the typical structures of adenolymphoma.

Summary

A typical case of adenolymphoma is recorded. The histopathological findings are furnished.

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A CASE OF NEPHROBLASTOMA WITH AUTOPSY REPORT

A. M. MUKHERJEE, M.B. (CAL.), D.C.P. (LOND.),

D. C. LAHIRI, M.B. (CAL.), D.T.M. & H. (ENG.), D.BACT. (LOND.), PH.D. (BOM.),

K. L. MUKHERJEE, M.B. (CAL.),

AND

N. N. SANYAL, B.SC., M.B. (CAL.), D.T.M. (CAL.), M.R.C.P. (EDIN.),

School of Tropical Medicine, Calcutta.

A partial post-mortem examination was permitted on a child who died shortly after admission into the Carmichael Hospital for Tropical Diseases, Calcutta. This revealed an extensive nephroblastoma. The disease seems to have been very rarely reported from this country, as revealed by only one publication (Pathak, 1949) where two cases of nephroblastoma were reported. Rarity of the condition is also acknowledged in the Western literature (Russel Taylor, 1950 and Sauser, 1948). It is for this rarity of the disease and for the remarkably clear histopathological picture which we obtained that this case is being reported.

Case Report

A six year old Hindu female child was admitted into the Carmichael Hospital for Tropical Diseases for the treatment of a condition which at first sight appeared to be hepatomegaly. On palpation the liver was found to be enlarged to the extent of 4 inches below the costal margin. The spleen was not palpable. The abdomen was tense and bulging. There was distinct fluid thrill. The patient was obviously anaemic and slightly jaundiced, thin and emaciated. There was clear evidence of oedema of the feet. There were scattered rhonchi over both the lungs. The pulse on admission was 130 per minute and the respiration rate 26 per minute.

Autopsy report—A pale emaciated child with protuberent abdomen and oedema of the lower extremities was put on the table for postmortem examination. The weight of the subject was forty-two pounds.

On opening the abdomen, a big lobulated tumour mass (Fig. 1, *vide* Plate) was found which was adherent to the right lobe of the liver, the greater omentum and the diaphragm. The abdominal cavity contained about two pints of bloodstained peritoneal fluid. The coils of intestine and the stomach were free. The right dome of the diaphragm was pushed up-

wards. A part of the right kidney was incorporated in the tumour and the right suprarenal was found to be lost in the tumour mass. The tumour was encapsulated and it weighed five pounds. The metastatic nodules were seen in the liver, diaphragm, lymph nodes and on the surface of the peritoneum. It might be repeated here that only partial postmortem was permitted, hence the metastatic nodules in other organs could not be explored. Macroscopically, the tumour seemed to have its origin in the right kidney. The tumour had a doughy feel and at places fluctuation was present. The cut surface of the mass was greyish-pink in appearance with areas of congestion. At places, on cut section, gelatinous creamy material was found to ooze out and at other places there were areas of necrosis and haemorrhage.

Morbid histology—The section of the tumour showed embryonic renal tissue with varying degrees of differentiation. There were undifferentiated epithelial clumps and tubules in all stages of formation (Fig. 2, *vide* Plate). These immature epithelial clumps were scattered throughout the immature mesenchymal cellular tissue. The cells of the epithelial clumps showed moderate mitosis (Fig. 3, *vide* Plate). These epithelial cells had big vesicular nuclei with prominent nucleoli embedded in scanty cytoplasm. These clumps were generally surrounded by young fibroblasts. The mesenchymal component of the tumour showed differentiated fibrous tissue, blood vessels and mucoid tissue.

The metastatic nodules in the liver showed the same type of histological picture as the parent tumour (Fig. 4, *vide* Plate). The hepatic cells surrounding the metastasis showed fatty and granular degeneration and those liver cells, which were involved in the tumour mass showed the same type of degenerative changes as suffered by surrounding hepatic cells.

The mesenteric lymph glands showed such overwhelming invasion by the tumour cells that the normal architecture was lost almost completely.

ACKNOWLEDGMENTS

We wish to express our gratefulness to Dr. R. N. Chaudhuri, Director, School of Tropical Medicine, Calcutta, for permission to report this case.

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PANCOAST SYNDROME

K. V. KRISHNASWAMY, M.D.,

Assistant Professor of Medicine, Stanley Medical College and Assistant Physician, Government Stanley Hospital, Madras.

A tumour at the thoracic inlet producing Horner's syndrome and destruction of adjacent ribs and vertebrae with shoulder-girdle pain radiating down the arm constitutes the Pancoast syndrome.

CASE REPORT

S.M., a Muslim male school teacher, aged 60 years, was admitted in the General Hospital, Madras, for pain over the right shoulder and cough of ten months' duration. Prior to the onset of these complaints he was enjoying good health. The present illness started with cough, which was productive at times, and a constant dull pain over the right shoulder radiating down the arm. The patient also suffered from anorexia and the loss of weight was striking.

There was anaemia and marked clubbing of the fingers.

There was fullness in the right supraclavicular region and upper part of the chest. A solitary lymph gland was palpable in the right supraclavicular region. The trachea was displaced to the right. Over the areas of fullness there was dullness on percussion with diminished air entry. The vocal fremitus and vocal resonance were diminished.

The small muscles of the right hand were wasted but without any loss of sensation. Horner's syndrome was present on the right side. Vocal cords were seen to be normal on laryngoscopy.

Other systems did not show any abnormality.

Investigations: X-ray of the chest (PA)—There was diffuse haziness in the right apex (Fig. 1, *vide* Plate) with destruction of posterior portions of the first three ribs, without any evidence of vertebral destruction (Fig. 2, *vide* Plate).

Cervical lymph gland biopsy report—Carcinomatous infiltration seen.

Sputum—Negative for AFB and malignant cells.

Treatment—The patient was given 4 mg. of nitrogen mustard in 100 c.c. of 5 per cent glucose saline I.V. daily for 4 days. The improvement was not appreciable.

ACKNOWLEDGMENTS

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FIBRINOGEN DEFICIENCY IN OBSTETRIC COMPLICATIONS

From very ancient times, obstetric practice has always required the practitioner to face the many hazards taking a heavy toll of maternal lives, often with dramatic suddenness, even within a few minutes. As a result of the great progress in the art and science of obstetric practice, deaths from infection, anaemia, toxaemia, malpresentation and obstructed labour have been reduced or controlled to a great extent. With the development of blood banks and the consequent easy availability and extended use of blood transfusions during the last few decades, it was naturally hoped that deaths from haemorrhagic episodes in pregnancy and childbirth would now be eliminated altogether. In recent years it has however been found that, now and then, a few cases are encountered where the bleeding in a parturient becomes uncontrollable in spite of liberal transfusions of blood, often ending in death. Most of these cases of haemorrhagic tendencies in pregnancy are nowadays found to be due to defective coagulability of the blood associated with deficiency or absence of fibrinogen in blood. A haemorrhagic tendency from this cause is commonly found in three complications of pregnancy ; *abruptio placentae* or severe accidental haemorrhage, amniotic fluid embolism and intra-uterine death with prolonged retention of the dead foetus *in utero*. Occasionally similar phenomena have also been reported in a few cases of abortion induced with intra-uterine injections of soapy water[1] or pastes and in operations for extra-uterine pregnancy[2].

De Lee[3] was perhaps the first to draw attention to this condition where, while describing a fatal case of haemorrhage following *abruptio placentae*, he believed that his patient had "a temporary haemophilia-like" disease. A few other cases of a similar nature with unexplained obstetric haemorrhage were reported by Williams[4, 5], Willson[6] and also by Davis and McGee[7]. Dieckmann[8] in 1936, studied the blood chemistry and renal function, demonstrated lowered fibrinogen levels in a group of cases of *abruptio placentae*, and drew attention to this fact by stating that "the prolonged bleeding time seen in some cases is probably due to the marked decrease in blood fibrinogen". This appears to be the first occasion to indicate a fairly accurate appreciation of the principles involved. Dieckmann (*loc. cit.*) also postulated three possible causes for the marked reduction of fibrinogen content of blood.

Since the discovery[9] of the condition known as amniotic fluid embolism, several reports[10-19] have appeared drawing attention to this and to the suggestion indicated by the clinical findings, namely, the presence of some kind of haemorrhagic tendency in patients who survive after the initial shock[9, 20]. Dooley and Leary[21], and Eames[22] were among the first whose observations established that as a result of amniotic fluid embolism the circulating blood may become incoagulable. Independent observations of these investigators showed that the venous blood, col-

[1] MAYER, M., DREYFUS, C. AND BUGNARD, C.—*Gynaecologia*, **138** : 87, 1954.

[2] MASURE, R. AND SCHOCKAERT, J.A.—*Ibid*, **138** : 75, 1954.

[3] DELEE, J. B.—*Am. J. Obst. & Gynec.*, **44** : 785, 1901.

[4] WILLIAMS, J. W.—*Surg., Gynec. & Obst.*, **21** : 541, 1915.

[5] *Idem*—*Obst. & Gynaec. Brit. Emp.*, **32** : 259, 1925.

[6] WILLSON, P.—*Surg., Gynec. & Obst.*, **34** : 57, 1922.

[7] DAVIS, M. AND MCGEE, W.—*Ibid*, **53** : 768, 1931.

[8] DIECKMANN, W. J.—*Am. J. Obst. & Gynec.*, **31** : 734, 1936.

[9] STEINER, P. E. AND LUSHBAUGH, C. C.—*J.A.M.A.*, **117** : 1245 & 1340, 1941.

[10] MALLORY, G. K., BLACKBURN, N., SPARLING, H. J. AND NICKERSON, D. A.—*New England J. Med.*, **243** : 583, 1950.

[11] LEARY, O. C. JR. AND HERTIG, A. T.—*Ibid*, p. 588.

[12] LANDING, B. H.—*Ibid.*, p. 590.

[13] WEINER, A. E. AND REID, D. E.—*Ibid.*, p. 597.

[14] SLUDER, H. M., CHARLOTTE, N. C. AND LOCK, F. R.—*Am. J. Obst. & Gynec.*, **64** : 118, 1952.

[15] RATNOFF, O. D., AND VOSBURGH, G. I.—*New England J. Med.*, **247** : 970, 1952.

[16] REID, D. E., WEINER, A. E. AND ROBY, C. C.—*J.A.M.A.*, **152** : 227, 1953.

[17] REID, D. E., WEINER, A. E. AND ROBY, C. C.—*Am. J. Obst. & Gynec.*, **66** : 465, 1953.

[18] WEINER, A. E., REID, D. E., AND ROBY, C. C.—*Ibid*, p. 475.

[19] JACKSON, D. P., HARTMANN, R. C. AND BUSBY, T.—*Obst. & Gynec.*, **5** : 223, 1955.

[20] GROSS, P. AND BENZ, E. J.—*Surg., Gynec. & Obst.*, **85** : 315, 1947.

[21] DOOLEY, F. M. AND LEARY, G. C.—*J. Maine M. A.*, **43** : 104, 1952.

[22] EAMES, D. H.—*Am. J. Obst. & Gynec.*, **64** : 201, 1952.

lected during the stages of obstetrical shock in proved cases of amniotic fluid embolism, did not clot.

The observations of Weiner *et al*[22] in 1950 have served to draw attention to the possibility of serious haemorrhage due to alterations in the blood clotting mechanism occurring in association with prolonged intra-uterine retention of a dead foetus. Some of the reported cases[1, 17, 19, 23-29] showed excessive bleeding from the reproductive tract immediately following delivery; with occasional cases showing bleeding from other sites, or ecchymoses under the skin. These patients suffering from any of the three major obstetric conditions (premature separation of the placenta, amniotic fluid embolism and intra-uterine dead retained foetus) also often show melaena, epistaxis, haematuria, gingival bleeding and bleeding from the sites of venepuncture or parenteral injections. The principal common defect in these cases seems to be a serious reduction of circulating fibrinogen in blood.

The demonstration of a deficiency, or complete absence in some cases, of fibrinogen in circulating blood, bringing about incoagulability of the blood and uncontrollable haemorrhages, underlying these obstetrical emergencies naturally stimulated investigations to find out the possible mechanism by which such deficiencies are brought about, and thereby suggest a rational therapeutic procedure. In spite of the accumulating reports of many clinical and experimental observations, all the details of the procedures involved are, however, not very clearly understood as yet, although the approach towards the management of these cases is certainly much brighter than before.

A study of the published reports show that there is no uniformity of opinion about the production of deficiency or absence of fibrinogen in these patients. In accordance with the modern concept of blood-clotting, several possible ways may bring about this afibrinogenaemia. Fibrinogen is considered to be a labile protein, a globulin with a molecular weight of approximately 350,000, formed in the liver; and the action of thrombin on fibrinogen is of a proteolytic enzymatic nature, which alters it into fibrin along with a very slight, subtle change in chemical structure. The formation of a fibrin clot is, however, only one of a group of reactions concerned with haemostasis, while the further action of thrombin is inhibited by a series of antithrombin reactions. These complex mechanisms probably serve and help to limit coagulation to the injured area only and also to guard against disastrous extensive thrombosis. Normal blood has its own mechanism for dissolution of clots[30]; but increased fibrinolytic activity has been recorded in a variety of clinical and experimental observations, in which anxiety and shock have been found to be predominant factors[31-34]. Also increased fibrinolytic activity may help to produce hypofibrinogenaemia seen in the haemorrhagic conditions under discussion here. Several workers have shown that while intravenous infusions of tissue thromboplastin can produce virtual defibrination of circulating blood; rapid injection causes death with large clots in the big blood vessels, but a slow injection may cause complete defibrination without apparent harm to the organism. In these latter cases, the fibrinogen level begins to rise and, in 24 hours, may even be higher than that before the injection [35-39]. It has further been shown that human decidua, placental tissue and amniotic fluid possess high thromboplastic activity *in vitro*, and can bring about intravascular defibrination in experimental animals, thus showing striking resemblance to the haemorrhagic tenden-

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[22] WEINER, A. E., REID, D. E., ROBY, C. AND DIAMOND, L. —*Am. J. Obst. & Gynec.*, **60**: 1015, 1950.

[24] RATNOFF, O. D., LAUSTER, C. F., SHOLL, J. G. AND SCHILLING, M. O.—*Am. J. Med.*, **13**: 111, 1952.

[25] REID, D. E., WEINER, A. E., ROBY, C. C. AND DIAMOND, L. K.—*Am. J. Obst. & Gynec.*, **66**: 500, 1953.

[26] HODGKINSON, C. P., LUZADRE, J. H., PIFER, P. W., SWINEHART, L. A. AND REMP, D. G.—*Obst. & Gynec.*, **5**: 465, 1955.

[27] PRITCHARD, J. A. AND RATNOFF, O. D.—*Surg., Gynec., & Obst.*, **101**: 467, 1955.

[28] TAYLOR, R. S.—*Med. Times*, **84**: 21, 1956.

[29] BYRNE, A. D.—*Med. J. Australia*, **1**: 455, 1956.

[30] MACFARLANE, R. G. AND BIGGS, R.—*Blood*, **3**: 1167, 1948.

[31] TAGNON, H. J., LEVENSON, S. M., DAVIDSON, C. A. AND TAYLOR, F. H. L.—*Am. J. M.Sc.*, **211**: 88, 1946.

[32] WESTPHAL, U., KOCHOLATY, W., MCDONALD, B., KING, R. AND JENSEN, H.—*Proc. Soc. Exper. Biol. & Med.*, **75**: 862, 1950.

[33] MACFARLANE, R. G. AND BIGGS, R.—*Lancet*, **2**: 862, 1946.

[34] LATNER, A. L.—*Ibid.*, **1**: 194, 1947.

[35] COPLEY, A. L.—*Science*, **101**: 436, 1945.

[36] RATNOFF, O. D. AND CONLEY, C. L.—*Bull. Johns Hopkins Hosp.*, **81**: 1, 1947.

[37] CONLEY, C. L. AND RATNOFF, O. D.—*Ibid*, **88**: 402, 1951.

[38] SCHNEIDER, C. L.—*Surg., Gynec. & Obst.*, **90**: 613, 1950.

[39] *Idem—Ibid.*, **92**: 27, 1951.

cies seen in *abruptio placentae*, amniotic fluid embolism and intra-uterine retention of a dead foetus. Based upon extensive and painstaking experimental observations, workers like Weiner *et al*[15, 23] Schneider[39] and Page *et al*[40] seem to agree upon the proposition that, in these cases of acquired fibrinogenopenia, the initiating factor is the escape into the circulation of thromboplastin derived from the *liquor amnii* or from the generating tissues like decidua or the placenta. The resulting thromboplastic activity causes a coagulation defect associated with diffuse intravascular clotting with microscopic fibrin deposits, particularly in the lungs, kidneys and the liver. This coagulation defect with deficiency of fibrinogen is thus presumably due to over-utilisation of some of the factors necessary in the clotting process. There is then extensive precipitation of insoluble fibrin, and in the severe forms, as in the cases of amniotic fluid embolism, massive embolisations may be caused by this intravascular coagulation. This extreme form of defibrination naturally causes clinical symptoms of acute cardiopulmonary insufficiency and consequent death. The moderately severe form of symptomatic defibrination, as seen in cases of premature separation of the placenta, is characterised by critical fibrinogen depression causing haemorrhage of incoagulable blood, and "obstetric shock" brought about by fibrin embolisation. Similarly, it is presumed that the mild or chronic form is seen in cases of long (at least five weeks) intrauterine retention of a dead foetus, characterised by insidious onset and, later on, shock due to excessive blood loss.

These propositions however do not explain all the phenomena observed in connection with the haemorrhagic episodes in obstetrics in presence of fibrinogen deficiency. Occasional demonstration of a circulating fibrinolysin has been thought to represent the physiological response to extreme fibrin deposition associated with intravascular clotting; anti-thrombin activity, occasionally found, may also be considered in that light[17]. Reduction in the number of platelets, prolongation of prothrombin and thrombin times and marked diminution in plasma Ac-globulin have also been observed in different cases[15]. Johnson *et al*[41] consider that the thromboplastin-like material released in *abruptio placentae* accelerates the conversion of prothrombin into thrombin, which reacts with plasma Ac-globulin to convert it to serum Ac-globulin. Similar findings have been reported by other workers[42, 43] also.

The decrease in circulating fibrinogen seen in these obstetric conditions might theoretically result from: (1) inadequate hepatic or reticuloendothelial synthesis, (2) increased consumption following release of coagulant factors in large quantities, (3) fibrinogenolysis or (4) a combination of these factors, e.g., insufficient production and excessive consumption or lysis of the fibrin (fibrinolysis) following multiple thromboses. The second factor is generally considered to be mainly concerned here because of: rapid return of fibrinogen levels to normal after delivery, absence of lytic activity shown by tests of venous and retroplacental blood, and ability of retroplacental blood (in abruptio cases) to accelerate coagulation of normal plasma.

It must however be appreciated that there are differences of opinion amongst the authorities. Eastman[44] observed profound thrombocytopenia in 13 out of his 14 cases with *abruptio placentae*, and is quite unable to accept the theory of generalised intravascular fibrin deposition. Pritchard *et al*[27] found 3 of their 8 patients (with retained dead foetus) to be Rh-positive while the earlier reported cases belonged to Rh-negative group. Also the patterns of fibrinogen depletion in 5 of their patients were different from those recently reported by other workers[26]. Pritchard *et al*[27] also found invariably elevated fibrinogen levels in all of their 8 cases within 48 hours after delivery, contrary to the findings of the Hodgkinson group[26]; moreover the amniotic fluid from one of their cases "was neither directly fibrinolytic nor did it act as an activator of the fibrinolytic properties of normal plasma."

In spite of this want of uniform accord in respect of the details of the underlying pathological processes involved, it is fortunate to find that all observers agree about the seriousness of the clinical syndrome, as deserving further careful studies. There is also a good deal of agreement about the methods to be used for diagnosis and management. This is remarkable, particularly in view

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[40] PAGE, E. W., FULTON, L. D., AND GLENDENING, M. B.—*Am. J. Obst. & Gynec.*, **61**: 1116, 1951.

[41] JOHNSON, J. F., SIEGERS, W. H. AND BRODEN, R. G.—*Am. J. Clin. Path.*, **22**: 322, 1952.

[42] SAWITSKY, A., LEAHY, D. J. AND CARPENTER, P.—*Am. J. Obst. & Gynec.*, **67**: 349, 1954.

[43] HODGKINSON, C. P., MARGULIS, R. R. AND LUZADRE, J. H.—*J.A.M.A.*, **154**: 557, 1954.

[44] EASTMAN, N.—*Obst. Gynec. Surv.*, **9**: 204 & **10**: 214, 1955.

of the many reports[28, 29, 45-49] that are now appearing about uncontrollable post-partum haemorrhage associated with fibrinogenopenia. To recognise these cases one has first to keep in mind that while the range of plasma fibrinogen in the normal non-pregnant woman averages between 200 to 400 mg. per 100 ml., the fibrinogen level is slightly raised in normal pregnancy. A patient is considered to be in the subclinical defibrination zone if her fibrinogen level has come down to between 220-150 mg. per cent, and one with the fibrinogen level down to 150-90 mg. is considered to be in imminent danger of, or actually suffering from, a serious bleeding episode. In the absence of laboratory facilities to estimate fibrinogen, a method which is clinically useful and reliable is the simple "clot observation test" described by Weiner *et al*[18], or the more accurate test of Schneider[50]. It must be remembered that an unstable clot may form when the fibrinogen levels are in the range of the minimal values for haemostasis (100-150 mg. per 100 ml.), or in the presence of a fibrinolysin, or as a combined effect of both these factors. However, regardless of the cause, an unstable clot signifies ineffective haemostasis. About the management of such cases, interruption of the disease process is often sufficient for subclinical defibrination. Clinical defibrination with symptoms of embolism and obstetric shock require supportive treatment with blood transfusions and intravenous administration of fibrinogen. Transfusions will replace lost blood but will not influence the circulating fibrinogen in a severely defibrinated patient, unless the blood is very fresh. Scott[51] has emphasised the adverse effect of plasma substitutes in these cases. Barry *et al*[52] have advised the use of double strength plasma in the milder cases. A number of grams of fibrinogen (Cohn's fraction I) equal to the amount of deficiency detected in the fibrinogen test, is given intravenously mixed with dextrose solution or with the blood transfusion. While 4 to 6 g. suffice for the average case, the amount recommended for afibrinogenaemia, total deficiency, is 10 g., equivalent to that amount present in about 8 pints of fresh blood—if all the fibrinogen were available at the one moment for infusion into circulation; probably double the volume of blood would be actually required in making allowances for dilution, continued loss and inactivation. In cases of postpartum haemorrhage the more common causes should naturally be first ruled out by careful investigation; and where the bleeding persists despite an intact and well-retracted uterus, the coagulability of the blood should immediately be carefully noted and the necessary tests undertaken. Where the patient is yet undelivered, careful obstetric judgment is necessary to bring things to a happy termination. After careful consideration of all the circumstances, caesarean section would sometimes be justified to avoid the prolonged waiting required for a vaginal delivery. Vaginal delivery is usually encouraged, if this does not entail too long a wait with depleted fibrinogen reserves. Attempts to hurry through a vaginal delivery, such as by injections of pituitary extract, is open to serious criticism as the resulting forceful uterine contractions may precipitate amniotic fluid "embolism" (better called "infusion"). Schneider[53] thought that protamine sulphate therapy might be useful in some of these haemorrhagic syndromes. However, human dried sterile fibrinogen is nowadays thought to be the remedy in such cases—in spite of the occasional possibility of viral hepatitis contracted through such a transfusion.

Haemorrhagic tendencies caused by deficiency or absence of circulating fibrinogen have been recorded in other branches of the healing art. Quite a number of reports have appeared regarding fibrinogenopenia associated with prostatic cancer. Similar serious haemorrhagic disorders are also now being reported accompanying operative manipulation of the lungs. It remains to be discovered if the severe fibrinogenopenia found in these latter cases is the result of excessive fibrinolysis or of intravascular defibrination by thromboplastin from the lung tissue. Two such cases of severe haemorrhagic diathesis following lobectomy for bronchiectasis have recently been reported[54]. While the field of the practical aspects of fibrinogen deficiency is thus gradually enlarging, it is highly desirable that practitioners in obstetrics should take keen interest in this subject because such a complication can easily appear at any time, posing a serious problem for management.

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[45] FEENEY, J. K.—*J. Irish M.A.*, **36**: 310 1954.
[46] SAWITSKY, A. AND PLOTKIN, D.—*New York J. Med.*, **55**: 1153, 1955.
[47] KELSEY, H. A. AND MUIRHEAD, J. M. B.—*Lancet*, **2**: 705, 1955.
[48] KIMBELL, N. AND GHOSH, A. K.—*Lancet*, **1**: 82, 1956.
[49] FITZGERALD, T. B. AND JACKSON, S. H.—*Lancet*, **1**: 412, 1956.
[50] SCHNEIDER, C. L.—*Am. J. Obst. & Gynec.*, **64**: 141, 1952.
[51] SCOTT, J. S.—*Brit. M.J.*, **2**: 290, 1955.
[52] BARRY, A. P., FEENEY, J. K. AND GEOGHEGHAN, F. J.—*Ibid.*, **2**: 12, 1955.
[53] SCHNEIDER, C. L.—*Am. J. Obst. & Gynec.*, **65**: 245, 1953.
[54] PENN, S. R. AND WALKER, J. H.—*New England J. Med.*, **250**: 764, 1954.

CURRENT MEDICAL LITERATURE

Intraperitoneal Antibiotic in Acute Bacterial Peritonitis

SCHATTEN (*Surg. Gynec. & Obst.*, **102**: 339, 1956) gives in the following lines the summary of his observations on the use of intraperitoneal antibiotic in acute bacterial peritonitis:

Thirty-eight patients with acute diffuse peritonitis demonstrated at the time of operation have been treated postoperatively with the intraperitoneal administration of oxytetracycline or neomycin. There were no antibiotics employed postoperatively other than oxytetracycline or neomycin instilled intraperitoneally.

One or more organisms were cultured from peritoneal fluid obtained at the time of operation of 30 patients, despite the fact that preoperatively 14 of these patients had received large quantities of antibiotics intramuscularly. On the other hand, a positive peritoneal culture was obtained postoperatively in only 1 patient following the institution of intraperitoneal antibiotic therapy.

It is believed that the markedly high levels of oxytetracycline and neomycin in the peritoneal fluid that occurred following the intraperitoneal administration of each dose and diffusion of the antibiotic were responsible for sterilisation of the peritoneal cavity in each of these cases.

Three of the patients in this series developed a pelvic abscess during their postoperative course; this 7·7 per cent incidence represents the only significant morbidity in this group of patients. Only 1 of these patients had a proved pelvic abscess; the other 2 patients developed clinical signs and symptoms consistent with an abscess. There were 4 deaths in this series. Two of these deaths were due to a pulmonary embolus and 1 was due to a complete occlusion of both coronary arteries. The other patient was almost moribund at the time of operation and never completely reacted following operation.

The intraperitoneal instillation of tetracycline hydrochloride is contraindicated because of nausea, vomiting, and intraperitoneal adhesion formation following administration.

There is little difference in the average peritoneal fluid and oxytetracycline and neomycin levels following administration of equal doses of the antibiotics intraperitoneally.

The intraperitoneal administration of oxytetracycline or neomycin is effective in treating patients with peritonitis. Intraperitoneal instillation of neomycin causes less discomfort than intraperitoneal instillation of oxytetracycline. Neomycin is considered the drug of choice for intraperitoneal administration.

Radioactive Gold in Carcinoma of the Bladder

NELSON (*South M.J.*, **48**: 245, 1955, Ref. *Radiology*, **66**: 156, 1956) reports that eight patients with carcinoma of the bladder were treated with radioactive gold, 5 men and 3 women between the ages of forty-seven and eighty-eight. The cases were far advanced and the treatment was regarded only as palliative. Three of the patients died and 5 were alive after brief periods at the time of the report.

The technique is as follows: The amount of gold required is estimated from the cystoscopic appearance of the tumour and from rectal and vaginal examination. Since the gold is active only over a distance of 0·5 cm., each cubic centimeter of tissue must be injected, the area being estimated from the diameter and thickness of the tumour. Allowing 1 c.c. of solution to each cubic centimeter of tissue the total amount can be determined. The solution may be injected into the tumour after suprapubic exposure or, in the case of small tumours, through the cystoscope. Radiation protection measures employed in the procedure are described.

As the author states, too few cases have been treated and too little time has elapsed for far reaching conclusions. It is believed that the effect of radioactive gold on tumour cells is lethal in the areas injected in adequate concentrations; the effect on the stroma and on the surrounding structures is minimal, as evidenced by the rapid mucosal healing in all patients who lived long enough to be followed. It is felt that radioactive gold is as effective as radium and has the advantage of easier administration, better localisation, and absence of adverse side effects. It does not have to be removed, and its activity is limited almost entirely to the area of injection. It is more easily administered than radon and can supply larger amounts of energy. It is not comparable to x-rays unless the x-ray therapy is aimed at a localised lesion, in which case the author believes that the short time required for administration of gold, absence of generalised reaction, minimal injury to surrounding structures, and the far greater amounts of energy which can be delivered to the tissues make gold the overwhelming choice.

Treatment of Cancer of Nasal Cavity and Paranasal Sinuses

HENDRICK (*Surg. Gynec. & Obst.*, **102**: 322, 1956) summarises in the following lines his observations on the treatment of cancer of nasal cavity and paranasal sinuses:

A study of 72 malignant tumours of the paranasal sinuses and nasal fossa has been made. The nasal fossa is infrequently involved. Most of these cancers are of squamous cell origin. Radiosensitive tumours, i.e., lymphoepitheliomas, lymphosarcomas, and anaplastic carcinomas involving the nasal fossa, are treated with irradiation therapy. Tumours involving the paranasal sinuses are treated with irradiation therapy followed by radical resection of the superior maxilla with or without exenteration of the orbit. A well fitting prosthesis provides the patient with good functional and cosmetic results and with no difficulty in swallowing, phonation, or mastication.

Radiation Hazard Evaluation and Control in Hospitals

FERLAZZO AND OTHERS (*Radiology*, **65**: 892, 1955) give in the following lines the summary of their observations on the hazards of radiation and their control in hospitals:

The medical use of man-produced radioactive isotopes and high energy particle accelerators does not appear

to present any essentially new problem to the radiological physicist, especially if he is already familiar with the handling of radium and radon and conventional x-ray therapy apparatus.

Radium and radon and x-rays in fluoroscopy are still the major sources of external-radiation hazards in hospitals. By comparison, the external hazard from radioactive isotopes is minimal, with the exception of cobalt-60 and gold-198, used instead of radium and radon.

Internal-radiation hazards arising from the medical use of radioactive isotopes also seem to be minimal, or can so be made, if the radiological physicist is familiar with their handling and fully gains the confidence and co-operation of all concerned.

All radiation hazards can be minimised, and kept well within the applicable permissible limits (*a*) without special administrative powers; (*b*) without experts in new fields; (*c*) without unduly elaborate facilities. Much depends on planning and training. Personal aptitudes remain paramount.

In some instances, the possible damage to sensitive emulsions and interference with delicate radiation measurements may be more restrictive than the contemplated health hazards.

Although these data and conclusions will not always apply in other hospitals, they nevertheless give some idea of hazards that can be expected, practicable control measures, and costs. This knowledge may be helpful in placing the problem of radiation hazards in its proper perspective.

The cost of radiation protection in a hospital can be kept within modest limits.

Toxaemia of Pregnancy as Seen by an Internist

FINNERTY (*Ann. Int. Med.*, **44**: 358, 1956) from an analysis of the study on 1081 toxaemia-suspect patients observes:

Hypertensive vascular disease and pyelonephritis frequently masquerade as toxaemia of pregnancy. The triad (or any part) of an elevated blood-pressure, oedema and albuminuria has been seen in each of these diseases. Experience has suggested that ophthalmoscopic examination and a complete urinalysis permit prompt differentiation of these diseases.

Toxaemia is said to exist when the ophthalmoscopic examination reveals a retinal sheen and normal arteries, and urinalysis reveals only albuminuria. Hypertensive vascular disease exists when the retinal arteries show hypertensive changes and no retinal sheen is present. When both hypertensive changes and a retinal sheen are seen on ophthalmoscopic examination, with or without albuminuria, toxaemia is then superimposed on hypertensive vascular disease. The finding of normal fundi and albuminuria suggests pyelonephritis; clumps of white cells and glitter cells document the diagnosis. Though a retinal sheen and albuminuria are seen in both toxaemia and acute glomerulonephritis, microscopic haematuria (occasionally gross haematuria) is seen more commonly in glomerulonephritis.

Though 95 per cent of the patients referred to the clinic were originally diagnosed as toxaemia, only 13 per cent had toxaemia by the author's criteria. The diagnoses included hypertensive vascular disease (606), hypertensive vascular disease plus superimposed toxaemia (90), postpartum hypertension (72), pure toxaemia (154), pyelonephritis (56), oedema without disease (38), and unrelated cardiac or renal disease (5).

The ability to differentiate these disease states provided the opportunity to study whether toxaemia caused vascular damage. One hundred twenty-five of the pure toxaemia group six weeks postpartum revealed no abnormality. In 29 patients, however, despite return of the blood pressure to normal and disappearance of oedema and albuminuria, examination of the retina revealed definite retinopathy. These retinal changes are attributed to the duration of the toxaemia rather than to its severity.

Effects of Prolonged Pregnancies

FRIESEN (*Am. J. Obst. & Gynec.*, **71**: 754, 1956) writes:

The term postmaturity is used by many to mean at once prolonged gestation and a premature decline in placental function. While placental insufficiency is probably the critical factor in either case, from a practical standpoint it is nevertheless important to state clearly in what sense the term is used.

It is apparent that most of those who have investigated prolonged pregnancy recently see no other course but to induce labour around the forty-second week or even sooner. This policy is probably a good one but only where it is controlled by the very highest standards of obstetrical practice. It is well to recall that it took 17,052 deliveries over a period of four years to collect 12 deaths in infants that might be attributed solely to postmaturity. Further, it seems reasonable to doubt whether Racker's high foetal mortality in pregnancies exceeding 42 weeks is a true reflection of the problem. For this reason alone it seems wise to continue to teach students and our colleagues in general practice that the best management of a case that has passed the forty-second week is to await the spontaneous onset of labor. (*Author's summary*).

Nutrition and Irradiation Treatment of Cancer Cervix

DIDDLE AND OTHERS (*Am. J. Obst. & Gynec.*, **71**: 768, 1956) write:

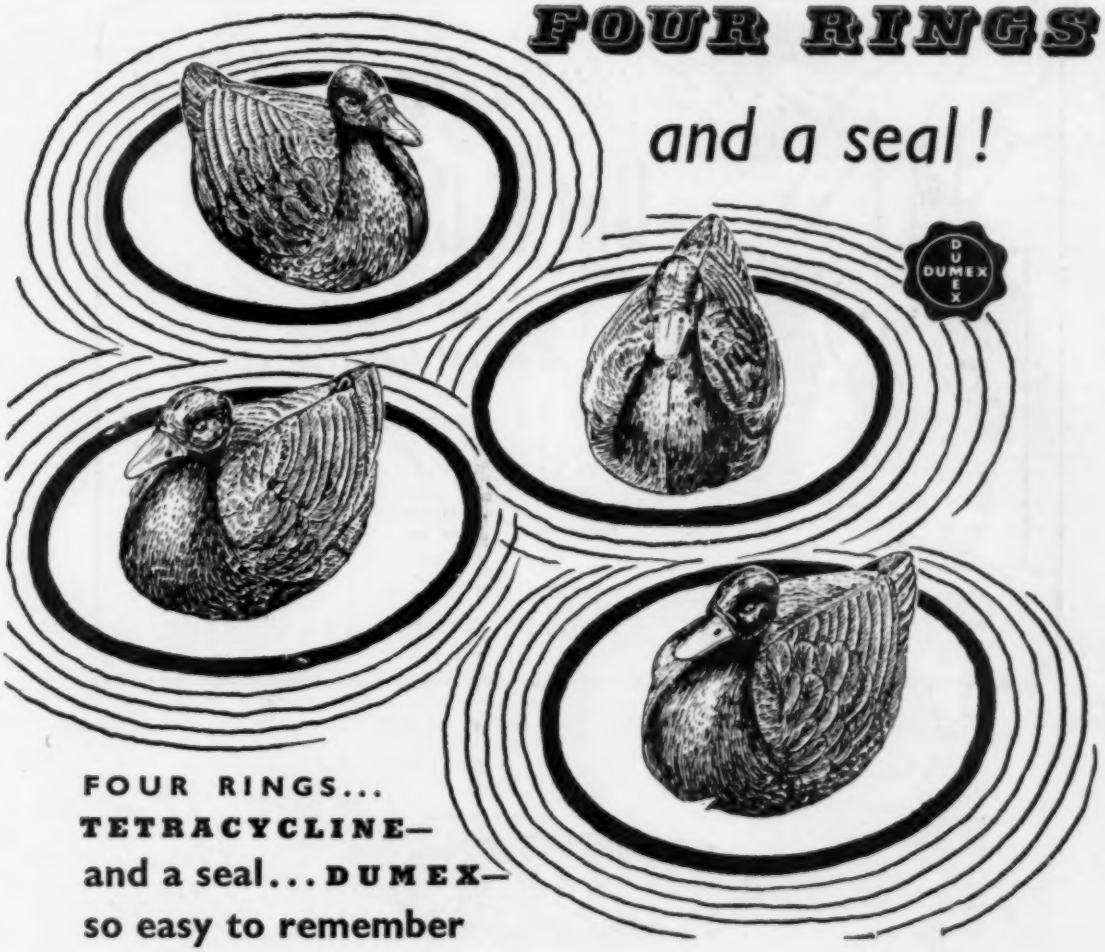
Patients hospitalised for their entire treatment, given a balance diet high in protein, iron, and caloric content, and transfused liberally with blood to correct anaemia, tolerated irradiation treatment better than did those not hospitalised or those given inadequate supportive therapy. This was true irrespective of the clinical stage of the tumour.

Those poorly nourished who weighed 100 pounds or less suffered more often and more severely from proctosigmoiditis, anorexia, and loss of weight than did those who weighed more than 100 pounds.

The undernourished woman treated with irradiation and without supportive measures suffered loss of vitality, and acquired anaemia more often than did the well-nourished or the ill-nourished patient who received supportive measures. Poor vitality was one of the reasons

FOUR RINGS

and a seal!



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2. Krishna Murty, G., *The Indian Practitioner*, Aug. '55.

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treatment was sometimes protracted and presumably it predisposed to an occasional early death in the patient given irradiation.

The elderly woman tolerated treatment nearly as well as the young patient provided decrements and insufficiencies were corrected.

Hydrocortisone in Mumps Orchitis

MARTONI (*Clin. pediat.*, **37** : 403, 1955, Ref. *Abs. World Med.*, **19** : 16, 1956) describes 3 cases of mumps orchitis in adolescents aged 15 to 18 which were treated at the University Clinic, Bologna, with hydrocortisone by mouth in doses of 125 to 150 mg. on the first day, decreasing to 50 mg. on the 4th day, when treatment was stopped; chloramphenicol was also given per rectum. The author is of the opinion that the rapid fall of temperature and the subsidence of swelling of the testicles which resulted were due to the hydrocortisone alone, and not to the chloramphenicol. He affirms his belief that the early use of hydrocortisone in mumps orchitis prevents atrophy of the testicles and damage to spermatogenesis.

CURRENT TOPICS

POST-GRADUATE RESIDENCY TRAINING FOR INDIAN DOCTORS IN U.S.A. AND CANADA

The Indian Medical Association has been able to secure, as in the past, post-graduate training facilities in U.S.A. and Canada for Indian doctors through the help and courtesy of the American and Canadian Medical Associations and the authorities of the hospitals concerned. These doctors are usually given hospital appointments with free maintenance and a stipend. Uptodate 213 doctors have been sent. Thirty doctors who were selected this year for residency training left recently in two batches, one by air and the other by sea. The appointments commenced on 1st July, 1956. Dr. Chamanlal M. Mehta addressed them and wished them godspeed on behalf of the Association. Dr. C. S. Thakar, Dr. Ugrankar, Hony. Secretary, Bombay State Branch and some other members of the Bombay State Branch attended the function.

The names of the doctors with details regarding their subjects of study and the hospitals to which they have been assigned, are appended.

GROUP PHOTOGRAPH OF THE BATCH OF DOCTORS ABOARD S.S. ILE DE FRANCE EX SOUTHAMPTON TO NEW YORK.

LIST OF DOCTORS ASSIGNED TO VARIOUS U.S. AND CANADIAN HOSPITALS FOR RESIDENCY APPOINTMENTS BEGINNING 1ST JULY, 1956

Name of the Candidate	*Subject of Study*	*Hospital in which appointed*
1. Dr. S. C. Chib (*Ludhiana*)	General Surgery	Royal Victoria Hospital, Montreal, Canada.
2. Dr. Amares Chattopadhyay (*Calcutta*) ...	—do—	Ottawa General Hospital, Ottawa, Ont., Canada.
3. Dr. D. K. Chaudhuri (*Indore*)	—do—	Goldwater Memorial Hospital, New York, N.Y., U.S.A.
4. Dr. D. S. Shah (*Dhulia*)	—do—	Lakewood Hospital, Lakewood, Ohio, U.S.A.
5. Dr. V. Rajasekharan Nair (*Vaikom, Travancore-Cochin*)	—do—	St. John's Hospital, St. Louis, Missouri, U.S.A.
6. Dr. J. S. Makhani (*Delhi*)	Orthopaedics	Ottawa General Hospital, Ottawa, Ont. Canada.
7. Dr. (Miss) U. H. Shah (*Bombay*) ...	Obstetrics & Gynaecology	Ottawa General Hospital, Ottawa, Ont., Canada.
8. Dr. (Miss) Rani Jagtiani (*Bombay*) ...	—do—	Lakewood Hospital, Lakewood, Ohio, U.S.A.
9. Dr. (Miss) N. M. Inamdar (*Nagpur*) ...	—do—	Kapiolani Maternity & Gynecological Hospital, Honolulu, Hawaii, U.S.A.
10. Dr. Y. N. Mehra (*Amritsar*)	Ear, Nose & Throat	Royal Victoria Hospital, Montreal, Canada.
11. Dr. S. N. Dhananjay (*Yantrapur, Mysore*)	—do—	Nashville General Hospital, Nashville, Tennessee, U.S.A.
12. Dr. V. N. Udhoji (*Nagpur*)	Internal Medicine	Nincoln Hospital, New York, N.Y., U.S.A.
13. Dr. R. K. Sharan (*Patna*)	—do—	Nashville General Hospital, Nashville, Tennessee, U.S.A.
14. Dr. P. K. Ghosh (*Patna*)	—do—	Ottawa General Hospital, Ottawa, Ont., Canada.
15. Dr. N. G. Durga (*Nagpur*)	—do—	Burlington County Hospital, Mount Holly, New Jersey, U.S.A.
16. Dr. R. C. Mahajan (*Khargone*) ...	—do—	Burlington County Hospital, Mount Holly, New Jersey, U.S.A.
17. Dr. R. D. Thergaonker (*Nagpur*) ...	Anaesthesiology	District of Columbia General Hospital, Washington, D.C., U.S.A.
18. Dr. S. Shreekumar (*Vellore*)	Pathology	Mount Sinai Hospital, Chicago, Illinois, U.S.A.
19. Dr. C. K. Bangappa (*Shimoga*)	Radiology	Burlington County Hospital, Mount Holly, New Jersey, U.S.A.
20. Dr. A. B. Agarwal (*Lucknow*)	Pediatrics	University of Wisconsin Hospitals, Madison, Wisconsin, U.S.A.
21. Dr. L. K. Sarin (*Jaipur*)	Ophthalmology	Massachusetts Memorial Hospital, Boston 18, Massachusetts, U.S.A.
22. Dr. (Miss) S. Arora (*Indore*)	Rotating Internship	Cumberland Hospital, Brooklyn, N.Y., U.S.A.
23. Dr. Muzaffar Hussain (*Hyderabad*) ...	—do—	Harlem Hospital, New York, N.Y., U.S.A.
24. Dr. M. A. Haque (*Patna*)	—do—	Aultman Hospital, Canton, Ohio, U.S.A.
25. Dr. (Miss) Pushpa Shukal (*Delhi*) ...	—do—	Woman's Hospital, Detroit, Michigan, U.S.A.
26. Dr. C. K. Agarwal (*Meerut*)	—do—	St. Louis County Hospital, Clayton, Missouri, U.S.A.
27. Dr. A. S. Daniells (*Raipur*)	—do—	La Crosse Lutheran Hospital, La Crosse, Wisconsin, U.S.A.
28. Dr. A. M. Pathak (*Nagpur*)	—do—	Evangelical Deaconess Hospital, Cleveland, Ohio, U.S.A.
29. Dr. (Mrs.) P. A. Vazirani (*Bombay*) ...	—do—	Euclid Glenville Hospital, Euclid, Ohio, U.S.A.
30. Dr. T. D. Sadashiv (*Bellary*)	Tuberculosis	Triboro Hospital, Jamaica, N.Y., U.S.A. (left in December 1955).

I.M.A. PRESIDENT'S TOUR

Dr. A. C. Ukil, President of the Indian Medical Association visited Ahmedabad early in March, 1956, in company with Past-Presidents Dr. Chamanlal M. Mehta and Dr. S. C. Sen in order to attend to certain matters connected with the difficult situation with which the Ahmedabad Medical Society, a branch of the Indian Medical Association, was faced.

The President again visited Ahmedabad on the 9th and 10th May in connection with the same affair. He proceeded to Navasari from there in order to discuss organisational matters with the members of the Gujarat and Saurashtra State Branch of the I.M.A. and to inaugurate the Scientific Section of its Annual Conference. After halting for two days there, he proceeded to Bombay, where he addressed the members of the Bombay Territorial Branch. He was at Hyderabad on the 14th May to (*a*) deliver the Arasthu Memorial Lecture and (*b*) open the Major Naidu Memorial Library of the Hyderabad Branch of the I.M.A. A large number of Ministers of the Government, members of the profession and public attended these functions. The Chief Minister, who presided at this meeting, announced a donation of Rs. 1,000/- to the I.M.A. for the propagation of ideas on public health among laymen. The President visited Nagpur the next day, where he met the members of the Working Committee of the M.P. State Branch and addressed them on organisation and other aspects.

Dr. Ukil visited Bangalore on the 2nd July in connection with a meeting of the Council of the Indian Institute of Science. He utilised this opportunity to meet the members of the Mysore State Branch at Bangalore on the 3rd July and to address them about organisational matters and some handicaps of members of the medical profession.

The President utilised these visits to raise some money for the Central Building Fund by auctioning the garlands which were presented to him. By this method, the following amounts were received :—

(1) Dr. S. B. Anklesaria, Ahmedabad Rs. 51/-; (2) Bombay Territorial Branch, I.M.A. Rs. 51/-; (3) Nawab Mehdi Nawaz Jung Bahadur, Minister of Health, Hyderabad Rs. 105/-; (4) Madhya Pradesh Branch, I.M.A. Rs. 53/-; (5) Mysore State Branch Rs. 51/-; Total Rs. 311/-.

Besides these, the President appealed to all State Branches visited by him to personally approach the leading members of the profession to contribute liberally to the Central Building Funds of the I.M.A. He also appealed to them for more membership and better service to the people.

NOTES AND NEWS

U. N. Committee on Radiation Effects

The United Nations Scientific Committee on the effects of Atomic Radiation has ended its first series of meetings. For approximately 10 days the committee discussed in detail the scientific problems involved in carrying out the mandate of the General Assembly to examine the "effects of radiation on man and his environment". Working groups considered seven topics : genetics, the effects of irradiation by internally absorbed isotopes, the effects of external radiation, natural radiation background, exposures during medical procedures, occupational exposure, and environmental contamination.

It was pointed out that, in the field of genetic effects, for example, sufficient information on which to base definite conclusions is not available. Before making recommendations, the committee has asked the Secretariat to collect by 1 August, 1956 from U. N. member states and from specialised agencies preliminary measurements of natural radiation background and of environmental contamination caused by man-made radioactivity. Specific information on local geographic, geophysical, and demographic conditions will be studied to see if any correlation in biological changes can be obtained from areas with different levels of natural radiation background. Methods of estimating the biological effects of small doses of radiation are also considered essential, and the committee has requested the August reports on these, too. The committee's next meeting will take place in October, 1956.

Other information that the committee plans to collect on the effects of irradiation will come from various sources. Among these are patients who have been treated with radiation or who have undergone repeated radiological examinations and workers who have been exposed to these hazards in their occupations. For all people whose work exposes them to ionizing radiations, the committee has recommended the maintenance of continuing personal files that would include information from periodic medical examinations. The committee has also decided to establish a means of speedy collection and examination of information on any accidental overexposure.

Regional Research Laboratory, Hyderabad

The Central Laboratories for Scientific and Industrial Research of Hyderabad State, India, have been taken over by the Council of Scientific and Industrial Research, Government of India. Under the new name of Regional Research Laboratory, Hyderabad, it becomes the council's first regional laboratory.

The director and the research staff continue as before. However, the change assures the fulfilment of plans that were originally made for the laboratory 4 years ago. These plans could not be executed because of the state's financial difficulties.

International Congress for Thoracic Diseases

The 4th International Congress for Thoracic Diseases will take place on 19 to 23rd August 1956 at Kiln. Prof. (Dr.) G. Domagk will preside. More than 1000 medical men from various countries of the world have already announced their attendance.

Those interested in attending the conference may apply to — Kongress-Buro des 4, Internationalen Kongresses fur Erkrankungen der Thorax-Organe, Koln—Deuts, Messegelande, Deutschland.

U. S. Physicians to Confer with Soviet Doctors

Dr. Paul Dudley White and a few other American physicians would visit Russia for eight to ten days early in September to confer with Russian doctors.

The purpose of the visit is to confer on two subjects, the first of these subjects is : Medical rehabilitation with particular reference to cardiovascular diseases which include heart diseases, cerebrovascular disease, disease of the pulmonary circulation and peripheral vascular disease and the second subject is what is called cardiovascular and epidemiological research, which includes the relationship or effect of the various ways of life on the heart and blood vessels with particular reference to rheumatic heart disease, high blood pressure and coronary heart attacks.

Dr. White will be accompanied by Dr. Howard Rusk, professor at New York University; Dr. Ancel Keys, professor at the University of Minnesota; Dr. James Watt, executive director of the National Heart Institute of the U. S. Public Health Service at Bethesda, Maryland; and Dr. Mark Field, Sociologist of Boston.

The conference at Moscow was arranged at the invitation of the Ministry of Health of the U.S.S.R. with the approval of the U.S. State Department.

Conference of Red Cross Organisations in Delhi

Preparations are afoot in New Delhi for the quadriennial international conference of Red Cross organisations which will meet from January 21 to February 5, 1957. This is the first time that a conference of this kind is being held in India. Only once before has Asia been the venue of a similar conference which met in Japan.

The conference will be attended by representatives of Red Cross Societies and Government organisations from 85 countries. Since the Red Cross cuts through all other barriers and functions in almost every nook and corner of the world, the attendance is likely to be good.

The conference will be important since it will discuss a vital question—protection of civilian populations against the dangers of indiscriminate warfare. Since discussion has been set afoot in all countries about the menace of atomic warfare and the hazards, nations in the Pacific area face due to radioactivity following hydrogen bomb tests, the conference will enlighten the Powers what humanity faces today on this count.

According to present indications, a number of papers are likely to be read on this problem while those who have studied the hazards of total warfare will make a positive contribution in finding a solution to the vexed problem as to how to protect the helpless non-combatants. Closely linked with this subject is another, the Red Cross's role as a factor in world peace. This will also stimulate considerable discussion since new problems affecting international relationships have emerged following the recent wars in Korea and Indo-China.

Mr. S. N. Sapru, former chairman of the Delhi Improvement Trust, has been appointed special officer to look after conference arrangements. The conference will meet in the new hall built on King Edward Road. The Prime Minister is likely to inaugurate it. The last quadriennial conference was held in Toronto (America) in which India was represented.

Memorial Hospital at Nimkathana, Rajasthan

The Kapildeo Memorial Hospital at Nimkathana will be built at a cost of Rs. 1 lakh in memory of Mr. Kapildeo Agrawal, M.L.A., a prominent Congress leader in the district, who died in November last. Funds for the construction of the hospital building have been raised through public contributions.

Research Work in Bombay

A number of research schemes pertaining to such subjects as synthesis of antihistaminic drugs, studies on food yeast, utilisation of soapstock, etc., were considered at the 15th meeting of the Bombay State Industrial Research Committee held at Sachivalaya, Bombay, on 13-7-56. Dr. Jivraj N. Mehta, Minister for Finance, Prohibition and Industries, presided.

A total grant amounting to approximately Rs. 70,000 was recommended by the Committee for research work.

Madhya Pradesh Medical Colleges

Seats in the first year class of the medical colieges at Nagpur and Jabbalpur would be increased from 101 and 48 to 120 and 60 respectively. The Government had taken this decision as admission to these colleges was being sought by students from Bombay as well as Vindhya Pradesh.

Department of Health, West Bengal Government

The Medical and Public Health Department of the Government of West Bengal has been renamed as the Department of Health.

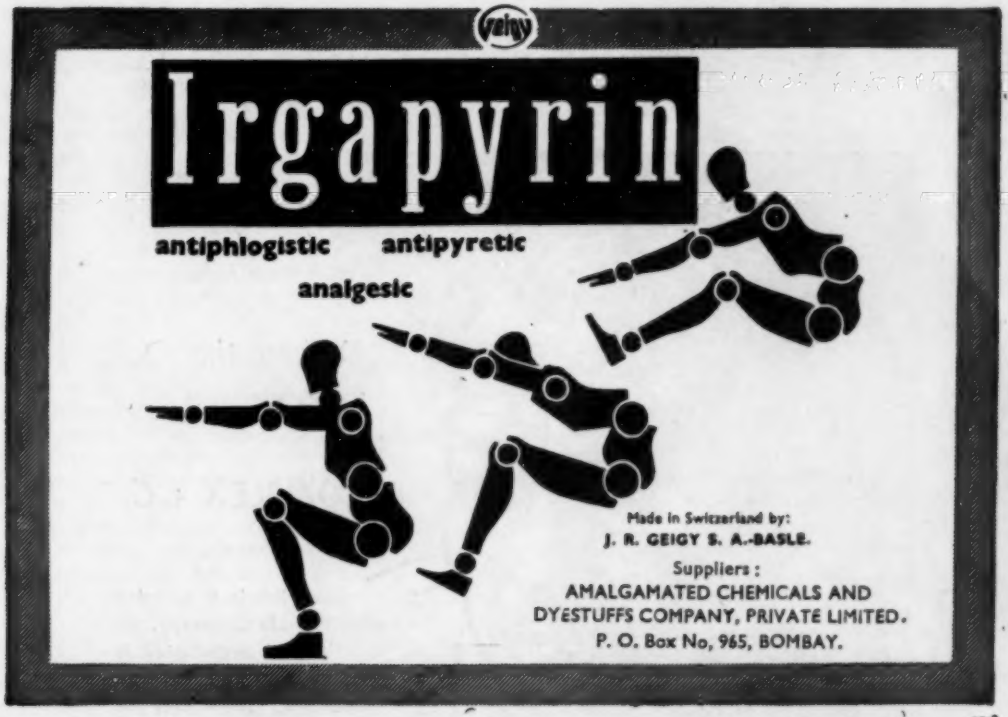
Indian Medical Association Research Fellowships

Applications are invited from members of the medical profession with registrable qualifications for two Research Fellowships of the value of Rs. 250/- (Rupees two hundred and fifty) each per month offered by Messrs. Uni Chem Laboratories under the auspices of the Indian Medical Association. One of the fellowships will be awarded for work on some pharmacological subject. Applicants must be members of the Indian Medical Association. Further details will be furnished by the Hony. General Secretary, Indian Medical Association, "Hanging Bridge", Daryaganj, Delhi 7.

REVIEWS

The Chemistry of Living Cells—By Helen R. Downes. Pp. x+549. Longmans, Green & Co., New York, 1955; price 45 sh. net.

The *Chemistry of Living Cells* is undoubtedly one of the best 'introductory text-books' on biochemistry meant for helping the 'inexperienced students'. The author's experience as a teacher for over twenty years has been of inestimable value in writing a book on an ever-growing subject like biochemistry. The history of bio-



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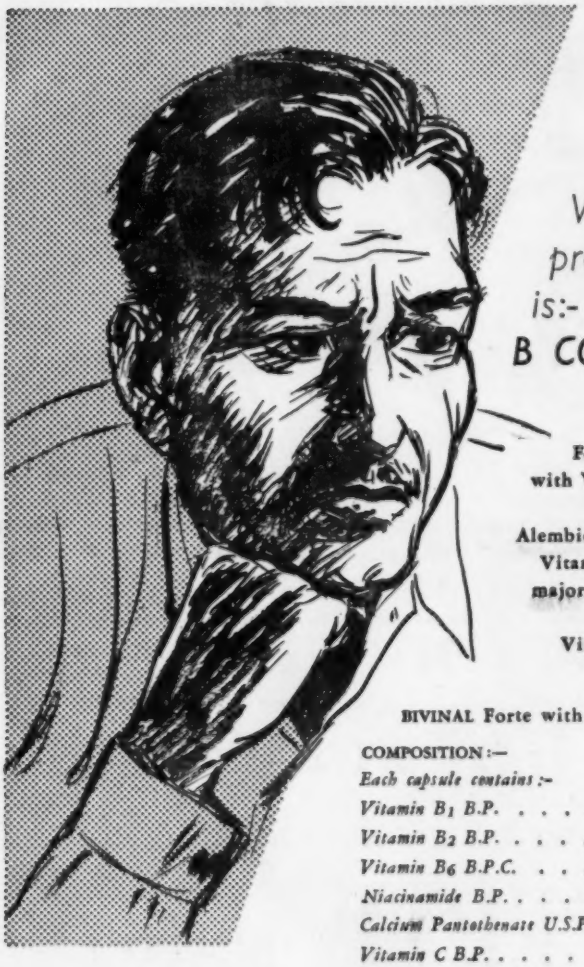

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chemistry as narrated by the author in about 12 pages is very interesting and pleasant reading. The authors of all scientific treatises meant for students might profitably take a hint from Dr. Downes to help their readers get acquainted with the hoary past of science and initiated into the study of the fascinating subject, the history of science. A brief reference in a few lines to the outstanding scientists of our age in the footnotes on almost every page of the book, is another important feature which has considerably increased the value of this book.

The arrangement of the subject matter and presentation of facts are satisfactory. The chapters on anaerobic carbohydrate metabolism and biological oxidations with schematic representations of chains of reactions have been well written, and are sure to be appreciated by those for whom they are meant. But the chapter on enzymes appears to be rather too brief. One wished a few more pages on classification and enumeration of the different types of enzymes with their functions had been added to this chapter. Some more important examples of competitive inhibition would have made the subject more interesting to the beginner.

The author does not appear to have done justice to the chapter on digestion, particularly to the portion dealing with gastric digestion. The chemistry of the living cells of the stomach should have been described more fully to explain how the gastric cells bathed in weak acids and bases could secrete a strong acid like hydrochloric acid. The functions of rennin and gastric cathepsin also deserve a little more space in the book.

The 'study questions' and 'suggestions for further reading' are useful additions and are likely to prove helpful to those students who want to specialise in biochemistry. The language is clear and expressive and evinces a poetic touch. The reviewer feels tempted to quote a line to show how nicely the author conveys her ideas to her readers. She speaks of Galileo in the following words: "His experimental approach to knowledge came like a fresh breeze blowing through a closed room into a world almost suffocated by tradition and authority and spurred men to thinking for themselves . . ." As a teacher, the reviewer feels the expression of thoughts in such a language is always desirable even in scientific books. Usually attention is paid to factual details and not to the language.

Obstetrical Practice—Beck—By Alfred C. Bede, M.D. and Alexander H. Rosenthal, M.D. Pp. xiv+1066, 947 illustrations and 22 plates. Baillière, Tindall & Cox, 7 & 8 Henrietta Street, London W.C. 2. Sixth edition, 1955; board bound in cloth; price 96 sh.

This well-known text-book now appears in its sixth edition with Dr. Rosenthal as a co-author following the retirement of the original author, Dr. Beck, from active practice and undergraduate teaching. Dr. Rosenthal has extensive experience in modern obstetrics, and has been for long an associate of Dr. Beck. His participation in the production of this book seems fortunate. It has helped to make this present edition up-to-date for undergraduates. The text of this edition has been thoroughly revised through frequent meetings and discussions between the senior and junior authors. Some of the more important modern advances, newer concepts and therapeutic procedures, incorporated in the present edition, are as follows: The work of Reynolds, his associates and others concerning the function of the uterus and its different parts in normal as also in abnormal labour; The modern concepts about causes, possibility of afibrinogenaemia in retained foetus, modern trends of treatment and steadily decreasing indications for therapeutic abortion; Modern trends towards expectant treatment of placenta praevia, the present-day more frequent employment of caesarean section, the danger of waiting too long with a retained placenta and, a re-assessment with recommendation of more frequent and early employment of manual removal of placenta. The growing importance of fibrinogen deficiency and its recognition in obstetric haemorrhages have been discussed in appropriate places. The present-day tendency to prefer a lower segment caesarean section along with the liberal use of modern potent antibiotics, rather than perform a caesarean section with hysterectomy, has been given due emphasis. The chapter on anaesthesia has also been revised and brought up to date.

This is a dependable and very useful text-book, likely to be of great help to undergraduates and also to practitioners in obstetrics.

Synopsis of Gynecology—Based on the Textbook of Diseases of Women—By R. J. Crossen, M.D., F.A.C.S. Pp. 255; 132 illustrations with frontispiece in colour. The C. V. Mosby Company, St. Louis, U.S.A., Fourth edition, 1956; price $5.25.

This is a neat handy condensation adapted from the 10th edition of the author's well-known and more complete text-book. Important modern advances in gynaecology have been duly touched upon. Amongst these may be mentioned several new diagnostic techniques, the newer uses of antibiotics in various infective conditions and the importance of the psychosomatic aspect in gynaecology. The paper, type and printing are good. The 132 illustrations in a synopsis of this size, greatly help to make the reading more interesting. A synopsis can never usurp the place of a text-book, but this handy compendium is likely to be of much help to students and others requiring a quick revision of the subject.

OBITUARY

Dr. S. N. Mukherji.

Dr. Satyendra Nath Mukherji, immediate Past-President of I.M.A., U.P. State Branch, breathed his last on the night of June 11, 1956.

He was born at Dumka (Santal-Parganas) in 1892 in a reputed family of Bihar. After graduating in medicine from Calcutta Medical College in 1918 he was appointed Surgeon Superintendent of the S. L. Marwari Hindu Hospital, Banaras, which post he held till 1927. He then began independent practice in the city and was at the top in a short time.

He was elected a Municipal Commissioner in 1931, and from 1937 to 1941 when he was the Senior Vice-

Chairman also. It was he who was instrumental in improving the drainage and water-supply of the city.

DR. S. N. MUKHERJI

He was connected with the Banaras Medical Association for quite a long period and took active and constructive interest in its affairs. He was in the I.M.A. Provincial and also in the Central Working Committee. He initiated the resolution to ban the use of atomic and other bombs. He started the popular Hindi Journal "Apka Swasthya" against considerable opposition and worked heart and soul for its welfare. It was due to him that this journal secured a firm soil.

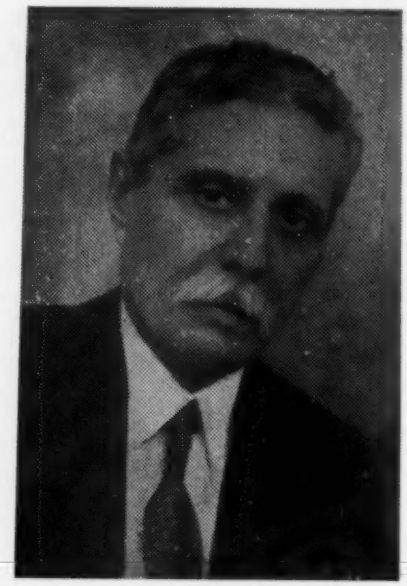
As a man of all round culture and the central figure of a large number of cultural activities Dr. Mukherji's place will be hard to fill.

May his soul rest in peace!

Dr. S. C. Sen

Dr. Srish Chandra Sen of Shahjahanpur, U.P., died at the ripe age of 85 years at Puri (Orissa) on the 7th June 1956. After passing the L.M.S. Examination from the Calcutta Medical College he came to Shahjahanpur as a Medical Officer of Health and settled there 50 years back. After a short time he resigned from service and very actively practised as the leading and most popular doctor of Shahjahanpur till one month before his death when he went to Puri for a change of climate. He was a very popular physician and it was due to his deep devotion to his profession and his sincere endeavour to alleviate pain and sufferings of his patients. He led a virtuous and well regulated active life, and was perfectly healthy both physically and mentally at the time of his death.

Although always hard pressed for time his religious temperament inspired him to write a commentary on



DR. S. C. SEN

the "Geeta". He was the president of the District Medical Association of the I.M.A. in Shahjahanpur from its inception till his death.

YOUR QUESTION

Correspondents should give their names and addresses (not necessarily for publication) and include all relevant details of the questions which should be typed. Questions of medical interest only will be accepted for this section. They should be sent in a separate envelope marked "Your Questions." Questions of general interest will be published in preference. Lack of space precludes answering all the questions received.

Q. What are choleretics? In what condition does hypersecretion of bile occur?

Ans. Substances which stimulate secretion of bile are called choleretics and the term cholagogue is restricted to agents which help expulsion of bile. Bile salts are excellent choleretics. Sodium salicylate and benzoate also act in the same way though their action is milder than that of bile salts. Calomel, rhubarb and acid acetyl salicylic have mild choleretic action.

A high protein diet especially meat and liver produce a constant increase in bile formation. A carbohydrate diet does not seem to influence secretion of bile while fat acts mainly as a cholagogue.

It is doubtful if there is any clinical condition where there is hypersecretion of bile. It should however be noted that vomiting is a strong stimulus for the flow of bile.

SUPPLEMENT
Journal of the Indian Medical Association

VOL. 27, No. 4 CALCUTTA AUGUST 16, 1956

XXXIII ALL-INDIA MEDICAL CONFERENCE, 1956

The Organising Secretary, XXXIII All-India Medical Conference, has issued the following :

Arrangements are in full swing for conducting the 33rd Session of the All-India Medical Conference in Trivandrum. A Reception Committee and an Executive Committee have been duly constituted.

His Highness the Maharaja of Cochin, Sri P. S. Rao, Adviser to His Highness the Rajpramukh of T. C. State, and Dr. A. Ramaswami Mudaliar, Vice-Chancellor of the Travancore University, have consented to be patrons of the Conference. Dr. C. O. Karunakaran, President of the Travancore-Cochin State Branch from 1951-55 is the Chairman of the Reception and the Executive Committee. Dr. V. R. Narayanan Nair, Surgeon General of the State, Dr. T. K. Raman, Principal of the Medical College, Dr. N. Krishnan Tampi, President of the Travancore-Cochin Medical Association, Dr. E. K. Madhavan, a former Health Minister of the State, Dr. Miss E. Samuel, a former Surgeon General of the State and Dr. S. S. Rao, President of the Cochin Branch are the Vice-Chairmen of the Reception and Executive Committee.

Committees have been constituted by the Territorial Branches for enlisting Donors and Reception Committee Members and a number of Sub-Committees have been constituted at the Centre to attend to the different items of work.

Subject to the ratification of the Working Committee of the Indian Medical Association, the following tentative programme has been adopted by the Executive Committee :

22nd and 23rd December—Meeting of the Working Committee.

24th and 25th December—Annual Meeting of the Central Council.

26th to 28th December—All-India Medical Conference.

Materials, information and suggestions for the success of this Exhibition are cordially invited from all members of the Indian Medical Association, who can give any help in the matter. Suggestions are also welcome from the members, especially from prospective delegates and visitors regarding the successful conduct of the Conference from their respective viewpoints.

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The Conference is to be held in the Medical College Campus, Trivandrum in the last week of December, this year. Kerala is well known as one of the most beautiful parts of India and is on the itinerary of every tourist. The State abounds not only in places of natural beauty but also in historic temples, palaces, artistic monuments, etc. The bracing climate of the place during the conference season, pleasure trips to Cape Comorin, the Game Sanctuary at Edapalayam, etc. are sure to make this conference attractive.

A Souvenir is being published to commemorate the occasion. It will contain articles of lasting and general interest by eminent persons and nearly 3,000 copies will be distributed. As such it will be a unique medium for advertisement. The Souvenir will be 10"×7" in size. The advertisements will be printed on best available art paper.

The rates of advertisement are :

Back Cover (4th Cover)	...	... Rs. 600/-
Inside Cover Front	...	... ,, 500/-
Inside Cover Back	...	... ,, 500/-
Second Cover Inside	...	... ,, 450/-
Full Page Ordinary	...	... ,, 250/-
Half Page Ordinary	...	... ,, 150/-
Quarter Page Ordinary	...	... ,, 75/-

Advertisers who also take stalls in the Exhibition will be allowed 10 per cent concession. Each advertiser is entitled to a free copy of the Souvenir. Additional copies will be supplied at actual cost, provided orders are placed *before 1st September, 1956.*

Advertisements will be allotted on *strict priority*. The Souvenir Committee's decision on all matters concerning the advertisement is final. The Committee reserves the right to accept or reject any advertisement.

All matters concerning advertisement, e.g., format, blocks etc. should reach the undereigned *not later than 1st September, 1956.* Advertisement charges shall be paid in advance and shall be sent by M.O. or crossed cheque to the Treasurer, XXXIII All-India Medical Conference, I.M.A. Office, Near General Hospital, Trivandrum 1, *not later than 1st September, 1956.* Manufacturers and dealers of products of interest to the medical profession are requested to extend their wholehearted support and co-operation in this matter.

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The Reception Committee is taking special steps to see that the Scientific and Industrial Exhibition this year becomes an outstanding feature of the Conference. It is expected that a larger number of manufacturers and dealers of medical and surgical instruments and appliances and other products of medical importance will take part in this year's exhibition and make it a bigger success than ever before. It is hoped that as in the past full co-operation and suport to the Exhibition Committee for the success of the exhibition will be extended by all.

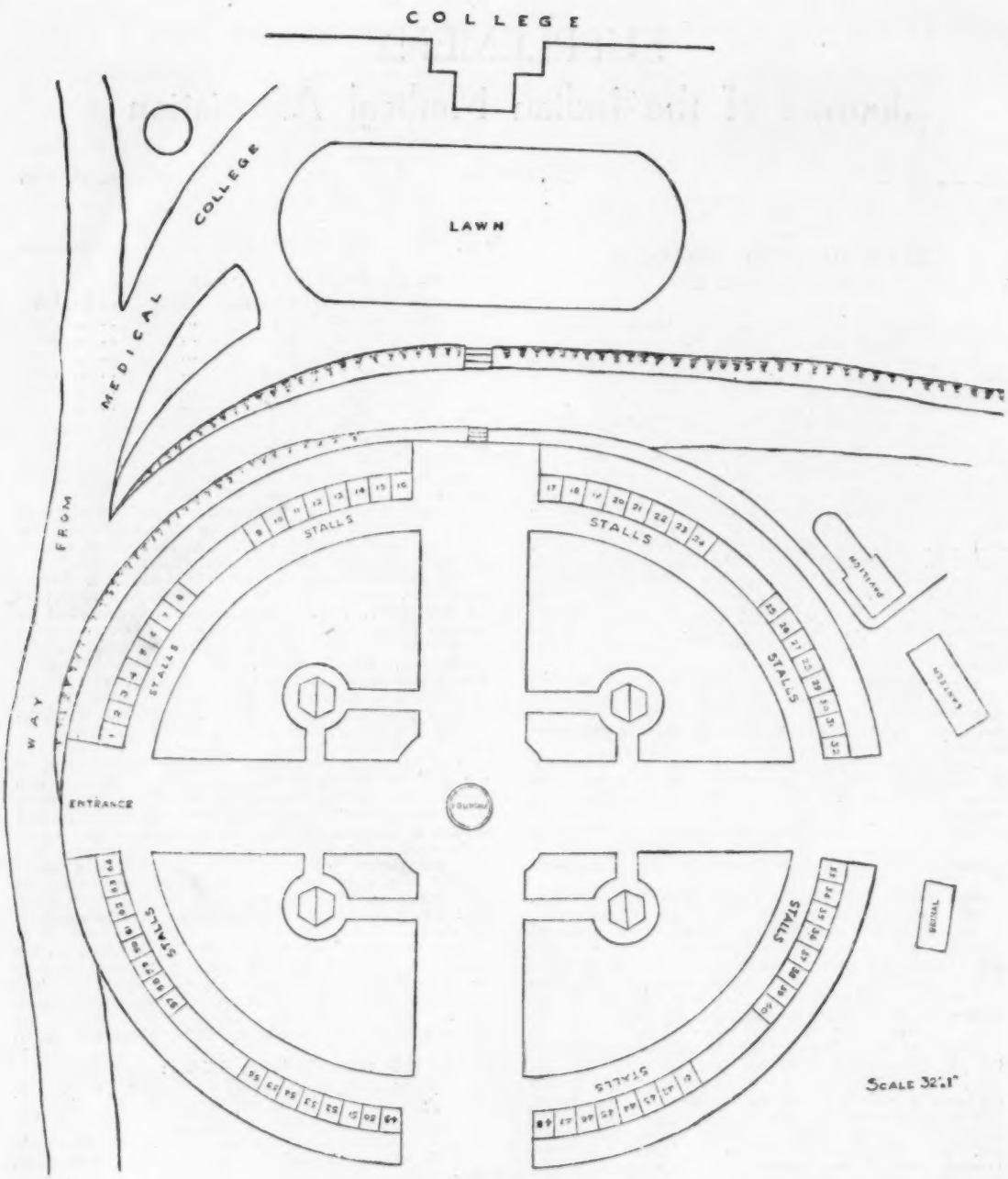
The exhibition will be held in the spacious cricket ground in front of the new Medical College. A plan of the exhibition pavilion is appended herewith. The pavilion will be elliptical with four entrances and nearly 80 stalls, the unit being a stall 12'×12' in size. In addition there will be four pavilions, about 800 sq. ft. each.

The stall rent will be as follows :

Pavilions A, B, C and D	...	Rs. 600/- each.
Stalls Nos. 1, 16, 17, 32, 33 and 64 on either side of the three entrances	...	,, 350/- each.
General stalls—12'×12' side	...	,, 250/- each.

Arrangements can be made for larger units on payment of proportionately higher rent, if requisitions are received before the 15th November, 1956.

Space for advertisement on either side of main entrance	...	Rs. 15/- per sq. ft.
Space for advertisement on either side of the side entrance	...	Rs. 5/- per sq. ft.



PLAN OF THE EXHIBITION GROUNDS
XXXIII ALL-INDIA MEDICAL CONFERENCE, TRIVANDRUM, DECEMBER, 1956

CONDITIONS FOR RESERVATION

1. Allotment of space for advertisement and stalls will be in order of priority of application.

2. Stall rent should be remitted in advance either by Money Order or crossed cheque addressed to the Treasurer, XXXIII All-India Medical Conference, I.M.A. Office, Near General Hospital, Trivandrum 1.

3. A special concession of 10 per cent shall be given to stallholders who also advertise in the Souvenir.

4. Stalls will be rain-proof and secure, but decorations and furnishings shall be made by the stallholders at their cost.

All possible help will be given to the exhibitors to get necessary furniture and materials for decoration at the current rates in Trivandrum.

5. The minimum number of light points—2 for ordinary stalls and 4 for pavilions, will be provided by the Committee. Additional lighting arrangements, if required, will have to be undertaken by the exhibitors themselves, through approved contractors, but no extra charge will be payable for the current consumed.

6. A canteen, where vegetarian and non-vegetarian food will be served at reasonable cost, will be provided by the Committee.

7. If lodging be desired by the stallholders in the camp, the same will be arranged at reasonable rates; if boarding in the delegates camps is desired, food tickets, at the rates charged by the caterers, should be purchased at least 4 hours in advance.

8. While applying for the stalls, please note the order of your preference, so that in case the earlier ones have already been allotted, there may be no delay in giving you the next available, as per order of preference.

9. All communications re: reservation of stalls, except payment of rent, shall be addressed to Dr. P. Krishnamoorthy, Secretary, Exhibition Committee, XXXIII All-India Medical Conference, I.M.A. Office, Near General Hospital, Trivandrum 1. (For remittance of rent, please refer to rule 2 above).

IX GUJARAT AND SAURASHTRA PROVINCIAL MEDICAL CONFERENCE, NAVSARI

The 9th Gujarat and Saurashtra Provincial Medical Conference was held at Navsari on 12-13 May, 1956. Dr. S. N. Mankad from Dhoraji presided. Dr. Jivraj N. Mehta inaugurated the conference. Dr. A. C. Ukil, the president of I.M.A. inaugurated the Science Session. Dr. Chamanlal M. Mehta inaugurated the Science Exhibition.

Dr. H. A. Parekh, the chairman of the Reception Committee accorded a hearty welcome to the delegates and guests. In his address he introduced the distinguished guests to the audience and offered them his thanks for attending the conference. He discussed the planning in respect of health in the II Five Year Plan and said "The objective of health programme is to improve the general level of health of the people by expanding the basic health services and bringing them within the reach of even the poorest. The bulk of the population lives in villages. So our health planning will not be successful unless we have assured medical aid, preventive, curative and environmental to these villages. The curative, the preventive and the environmental are the three facets of medical aid in the planning of health. Cure of the disease is only a small part of health plan. We have to lay much stress on the prevention of disease and the creation of healthy environment that would conduce to sound health and physical fitness. He also said "Inspite of free services in Government hospitals and cheap services elsewhere, many people in fact go without proper medical aid. The purpose of medical aid is not fully served by these institutions." The real solution according to him lay in the organisation of Social Health Insurance Scheme.

The conference was inaugurated by Dr. Jivraj Mehta. Dr. Mehta in his inaugural address discussed at the outset what contribution the medical profession could make or it was to be called upon to make in the 2nd Five Year Plan in view, of the fact that the goal of the country's administration has been fixed as a socialistic pattern of society. He said "It would be easy for the profession to participate in the socialist pattern of society, though at present, inspite of our noble ancestry, we have drifted considerably from the fundamentals of nobility of the profession." He regretted by saying "The monetary reward of services rendered has unfortunately taken possession of the soul of the members of the medical

DR. S. N. MANKAD, THE PRESIDENT OF THE CONFERENCE

profession with the result that those who have the ability and a high degree of intelligence, those who have the drive and resourcefulness are taking to the clinical side of medicine only on account of the rich reward ready at hand in form of lucrative private practice while the Public Health side of the profession and its research side are neglected." He said "It is only by nationalisation of the medical profession that we can best help the development of the socialistic pattern of society. The first step has been taken in this regard by the introduction of the Employee's State Health Insurance Act. As the sphere of the application of this Act is widened, a very large of the section of the population will come within its purview and the nationalisation of the medical profession would naturally follow". Dr. Mehta also discussed various other medical questions of the present time.

Dr. Mankad, the president of the conference in course of his address said :

"There is nothing nobler than our sacred profession. Society also expects greater things from us than any other unit of society. Hence, we, the members of the Association should make it a pledge and a vow to abide strictly and honestly, body and soul, by the Geneva Declaration and prove to the society by nobler behaviour, sympathetic attitude and selfless service, keeping service before self, as our goal. This demeanour of ours is particularly indicated when we have to prove our worth to the society.

We have been not only preaching but practising our profession according to the Geneva Declaration, keeping in view the nobility of it. Even the lay society does not fall to bring to our notice the nobility of our profession but with a heavy heart. I have to point out to the society that it fails to understand the nobility of our profession and treats it with contempt. Dare the society do so if our profession is solidly united into one? Dare society take mean advantage of and flout the profession as they have been doing, if we join hands to make our body strong and united into one? If we are united we can dictate the ways and means to make our Nation healthy and strong.

There are many problems which have to be faced, like Malaria, Tuberculosis, Public Health, medical service particularly rural medical service. All these questions are discussed and do take our attention, and are being tackled and solved by the Government also, through routine methods. So I need not go into the details of all these over and over again to take your time unnecessarily on such an occasion and say that we should devote 364 days to it as our daily problems rather than talk discuss and leave them here and go back to our homes and do nothing.

A Few Words to the Government

As every definition is changed, it is just an old order changeth yielding place to new. The definition of government the old Imperialistic Rajashai which is still present should disappear and give place to pure Lokshai in which the Government is merely a machinery and administrative body giving full scope to views and ideals of the people of India rather than with a policy of conservative party mindedness.

Education which is the soul of the Nation is still miserably neglected which means we advanced ahead leaving behind poor heritage and woeful reserve force. Medical education too requires complete overhauling with particular attention to merits for admission. As medical profession differs from all other professions and services in radical principles as it has to serve the sick.

It is proved beyond shadow of doubt that scientific medicine has its surgical art most perfectly developed and uncontested. No science intended to look after health of the people will be complete without the art of surgery. Sooner the Government comes out conscious of the delusion and fad of favouring multifarious sciences (Medical) like polygamy and see the concrete that in adopting scientific medicine as the State Medicine and appointing a pan medical board to select the efficiency of drugs of all the pathies and arrange for most graduate courses. Preventive side of science can be reinforced by raising the level of positive health by raising bodily resistance by general good being and more hygeinic methods of living and artificial immunity when indicated in co-operation with General Practitioners leaving the orthodox views which are still being held by the authorised authorities that it is the only body born to look after well-being of the Nation forgetting that nothing can be achieved without co-operation. They should condescend to invite opinion and services of the Association. Lastly I pray to the Almighty that we get more united and co-operative to keep the banner of prestige of our profession high and everlasting in the atmosphere of sincerity, sympathy and service. If we are united into one, our profession will not be flouted by one and all and taken mean advantage of.

Five Year Plans

We have completed our first five year plan and when we recollect about its progress in the medical service, we feel not very happy. There have been achievements in other matters but not in the matter which touches the most suffering humanity. Now comes second five year plan which may not carry us farther from the starting point. The Medical Association particularly the Mother Association should plan out our own five year plan with a definite plan and picture of progress what we should make in our services. Even the Government has not got any fixed plan, it is a period of permutation and combination. We are still in a fluid state in a melting pot. I think the Herculean effort should be made by all concerned to give prompt and proper shape to our country. It will not be out of place to suggest that there should be a strict economic dam to check the enormous amount of money which is being wasted in buildings, entertainments etc. When our people are starving, unclothed, sick and lying on the roads, we are talking about a "Samaj" in which every one should be offered equal opportunities and amenities, it looks so incongruent that years have passed since we have National Government and nothing is done to feed, to clothe, and to give shelter to our sisters and brothers.

Dr. H. A. Parekh, the Chairman of the Reception Committee

MEDICAL EDUCATION AND PRACTICE, RURAL AND URBAN

There should be a uniform standard of basic education of Medical Degree of M.B.B.S. No other short course to be mixed with Allopathy. The medical course can be completed in three and half years as part one with one and a half year consisting of Anatomy, Physiology and Meteria Medica and two years to be allotted to part second consisting of major subjects. After completing both the parts every student has to do two years of hospital training and should take special training in one chosan subject for six months. If training is sound with periodic tests given by full-time teachers final examination can be done away with.

All graduate hospital doctors should put five years rural service after the age of fifty till retirement.

Private practice too requires a great modification though these things are not possible in a day but it should receive a very serious attention of all doctors in the practice.

The methods of investigations have changed and our old Pharmacopia is almost getting obsolete and hence mixture-mindedness both of the doctors and patients should be replaced by some suitable method. This will require great patience and perseverance but is quite essential now in these days of scientific research. The modernisation in practice can very well be gradually started by senior members of the general practice. I think if they start on modern methods with due relief to the poor and middle class it will really add to the grace of the profession.

Family Planning is a very important and urgent question for the country like ours. Every country has solution of common questions to be solved differently according to its own conditions. When we are talking about Social Preventive Medicine this important question of society should not be left untouched though its pros and cons cannot be fully discussed in a short time, but I think every general practitioner makes it a point to advise his patient its natural methods and how it will help in economic and healthful conditions.

We have removed Rajashai, Jagirdary but our popular Government has failed to remove red tapeism from the medical administration so far as the maintenance of health is concerned, and we are trying to remove Mudivad in view of giving food, garment and shelter but we brothers and sisters are without a roof. I touch this point as we cannot live with the time without adopting social medicine and unless the problems of nourishment, clothing, housing, and education are adequately arranged, for, no preventive medicine can prove 100% successful. I hope the Government will care to solidify these four pillars of welfare, food, cloth, shelter and education and give preference to any other schemes if we really want a Kalyan-Raj. *For healthy body creates healthy mind."*

The following resolutions were passed at the Confer ence :

(1) Condolence Resolutions were passed on the death of : (1) Dr. R. M. Talati, (2) Dr. C. S. Patel (Nadiad), (3) Dr. D. H. Udhnawalla (Surat).

(2) In view of the fact that the central Health Council has recommended the age of retirement of the medical men in Government and allied services to be relaxed from 55 years to 60 years, this conference recommends the Government of Bombay and Saurashtra to implement the said recommendations in their respective States.

(3) This conference recommends the Government of Bombay and Saurashtra to implement the directions of the Central Health Council to continue the condensed course for M.B.B.S. for a further period of five years. It further recommends the Universities of Bombay, Poona, Gujarat and Baroda to help the respective State Government to implement and carry out the directions of the Central Health Council as soon as possible.

(4) This conference offers the Government of Bombay and Saurashtra its whole hearted support and co-operation in the second five year plan particularly in medical and public Health schemes.

BRANCH NOTES

BHATAR BRANCH—A meeting of the members of the medical profession of Bhatar in Burdwan formed a branch under the I.M.A. and named it as Bhatar Rural Practitioners' Association on 27-5-56. Dr. K. C. Roy was elected the president and Dr. A. B. Mukherjee, the Secretary of the branch.

BONGAON BRANCH—A meeting of the branch was held on 13-5-56 to felicitate the president of the branch, Dr. J. R. Dhar on his being appointed as Minister-in-charge of Jails.

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PARTICIPANTS IN THE RURAL MEDICAL CONFERENCE HELD UNDER THE AUSPICES OF THE I.M.A., BONGAON BRANCH.

The Bongaon Subdivision rural Conference was held on 10-6-56. Dr. N. K. Munshi the president, Bengal Provincial Branch, I.M.A. presided. Dr. R. C. Adhikary in inaugurating the socio-medical conference, stressed on preventive medicine. Dr. I. N. Sengupta, a rural medical practitioner spoke about the disappearance of Malaria in the present days. Dr. J. R. Dhar welcomed the rural medical practitioners who attended the conference and requested all to join I.M.A. Dr. S. M. Ghosh spoke on Surgical Emergency. Dr. P. K. Chakraborty spoke on anatagonism and synergism effects of antibiotics. Dr. Munshi, the president of the conference discussed the medical problems of the present time. Dr. A. K. Bose, Dr. P. K. Chatterjee, Dr. Souren Sen Gupta, Dr. Sukomal Sen, Dr. Debesh Mukherjee, Dr. T. D. Mukherjee also spoke in the conference. At a meeting of the branch members, Dr. J. R. Dhar was elected the president and Dr. A. Sinha, the secretary of the branch.

CHITALDURG BRANCH—A clinical meeting of the branch was held on 23-6-56 with Dr. G. Shekarappa in the chair. Dr. M. Appajappa read a case report on Myopathy and demonstrated interesting radiograms. Dr. K. S. Devendra read a paper on "Snake Bite and its treatment". Dr. M. Hayath read a paper on "Vesical Calculus". Dr. M. Rajeswari spoke on "An Abnormal Case of Obstructed Labour". Dr. G. Suryanarayana Rao spoke on "The Classification of Post-mortems and some salient points to be adopted during the Post-Mortem. Dr. C. Annapurnamma read a case report on "Cushing's Syndrome".

DALTONGANJ BRANCH—A meeting of the branch was held on 28-5-56. Dr. J. P. Karan gave a talk on the work, implications and complications about BCG Vaccine. Dr. Sahee gave a supplementary talk on the same subject. Films were also shown.

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A meting of the branch was held on 16-6-56 at Lesliganj. It was decided to invite the meeting of the State Council at Palamau in this district. Dr. G. N. Sinha spoke on Medico-legal problems. In the opinion of the members, the old practice of giving TA to members attending Working Committee and Central Council meetings should be continued.

I.M.A. (GT. BRITAIN)—The Annual Dinner and Dance of I.M.A. Great Britain were held on 31-5-56. The guests of honour were Sir Cecil and Lady Wakeley and Dr. and Mrs. Thomas of the British Medical Journal. Dr. G. P. Barua, the president welcomed the guests. Mr. Pardhy, the first president of the Association also spoke a few words of welcome. Justice Menon (Madras) and Dr. Susanta Sen (Delhi) also attended the function.

KALYANI BRANCH—A report of the branch for the first half of the year shows that 3 general meetings, 1 special meeting and 1 Working Committee meeting were held during the period. Besides a public meeting was held under the auspices of the branch to observe "All Indian BCG Vaccination Day".

KRISHNA DISTRICT BRANCH—A meeting of the branch was held on 27-5-56 with Dr. N. Govindrajulu in the chair. Dr. P. Venkataswaran Rao of Vijayawada spoke on Importance of Rectal Examination in general practice.

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SERAMPORE BRANCH—A new branch was opened at Serampore on 10-4-56. Dr. N. K. Munshi, the president, Bengal Branch, IMA inaugurated the function. Dr. N. L. Bhattacharya was elected the president and Dr. J. Mukherjee, the secretary of the branch.

TENALI BRANCH—A meeting of the branch was held on 25-3-56. A symposium on Diabetis Mellitus was held. Dr. K. Kodandaramaiah opened it and Dr. N. Balakrishnareddi, Dr. Pullaiah, Dr. (Miss) C. Jhansi Vani and Dr. G. Hari Prasadrao participated in it.

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XXI U. P. STATE MEDICAL CONFERENCE. DEHRA DUN.

The Twenty-first U. P. State Medical Conference will be held at Dehra Dun on the 27th and 28th October, 1956. Members of the profession are requested to write papers for the Scientific Section. Further information can be had from the Organising Secretary of the Conference, Dr. Jagmohan Singh, 4, New Road, Dehra Dun.

VI MADHYA BHARAT PROVINCIAL MEDICAL CONFERENCE, GWALIOR.

The Sixth Madhya Bharat Provincial Conference will be held at Gwalior on the 18th and 19th August, 1956. Members who wish to participate in the Conference should contact Dr. S. S. Sapro, New Road, Lashkar, Gwalior, regarding arrangements for loaging and boarding.

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A meeting was held on 27-5-56 with Dr. V. Sundararamaiah in the chair. Dr. C. Krishnaiah spoke on Head Injuries and Treatment.

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A meeting was held on 26-6-56 with Dr. V. Sundararamaiah in the chair. Dr. P. Lakshmanarao delivered a lecture on "The Art of Auscultation in General Practice".

XXI U. P. STATE MEDICAL CONFERENCE, DEHRA DUN.

The Twenty-first U. P. State Medical Conference will be held at Dehra Dun on the 27th and 28th October, 1956. Members of the profession are requested to write papers for the Scientific Section. Further information can be had from the Organising Secretary of the Conference, Dr. Jagmohan Singh, 4, New Road, Dehra Dun.

VI MADHYA BHARAT PROVINCIAL MEDICAL CONFERENCE, GWALIOR.

The Sixth Madhya Bharat Provincial Conference will be held at Gwalior on the 18th and 19th August, 1956. Members who wish to participate in the Conference should contact Dr. S. S. Sapre, New Road, Lashkar, Gwalior, regarding arrangements for lodging and boarding.

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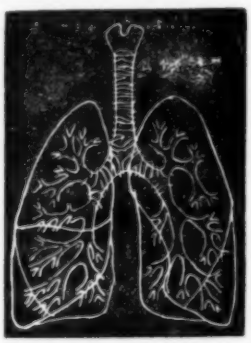

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1. Schlicke, C. P. and Anderson, W. E. Antibiotics & Chemotherapy 4:939 (Sept). 1954.
2. Lall, S., and Korelitz, S.: J. Pediat. 43: 35 (July) 1953.

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